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1974
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Chesapeake Bay Center

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1973

ENVIRONMENTAL MONITORING AND BASELINE DATA

Compiled under the
SMITHSONIAN INSTITUTION
ENVIRONMENTAL SCIENCES PROGRAM

Temperate Studies

Rhode River, Maryland

Edited by David L. Correll

QH
84.3
N714
1974
Sect. 1
CBC

"1973 environmental monitoring and baseline data.
Temperate studies / "



INTRODUCTION

The formation of the Chesapeake Bay Center for Environmental Studies was initiated in 1964 and land acquisition as well as facilities development is still going on. At present the center has approximately 2,600 acres of land (approximately 4 square miles) and controls the water frontage and near water portions of a large part of the Rhode River watershed. The Rhode River is a small subestuary of the Chesapeake Bay (approximately 0.1 percent of the open water area of the bay, see map number 1). It is large enough to have the complexities and many of the properties typical of larger subestuaries of the bay, but small enough to be studied in depth. The Rhode River has an open water area of approximately 2 square miles and a watershed of approximately 13 square miles.

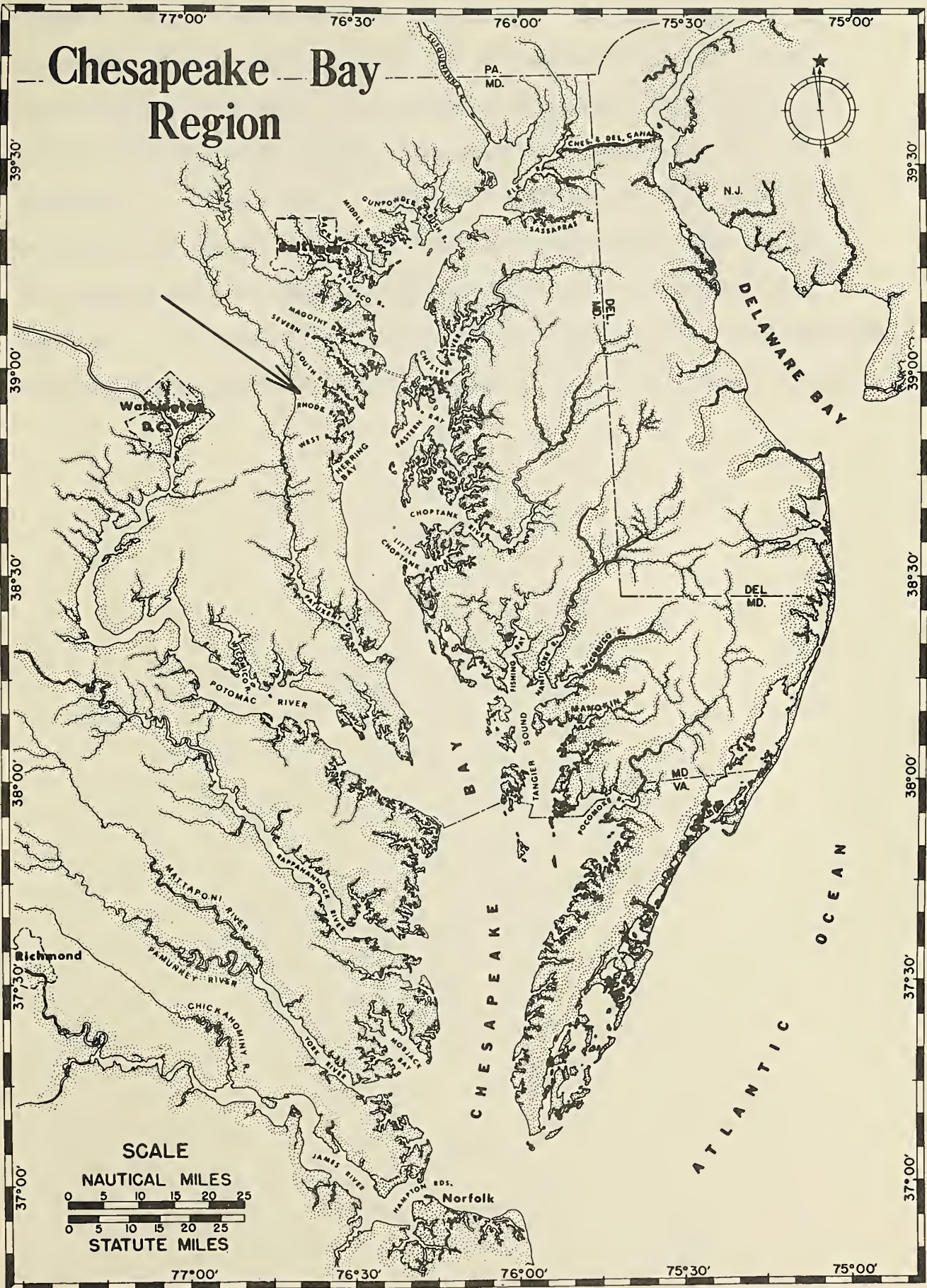
The goals of the Rhode River Program are (1) to establish an understanding of the operation of this ecosystem with special emphasis upon the interaction of the watershed and the estuary and (2) to monitor long term changes in the ecosystem and relate them to the activities of man as well as to other variations in environmental conditions.

The water shed of the Rhode River is actually composed of about twelve subwatersheds, each of which contains a different pattern of land use. Of these subwatersheds a number have a topography which lends itself to monitoring the composition and volume of the runoff water. These runoff waters have a fundamental impact upon the corresponding portions of the Rhode River estuary. Map number 2 outlines the boundaries of the subwatersheds.

Another major interaction of the Rhode River ecosystem is the exchange of water masses with the open bay. This maintains the salinity gradient and determines many of the properties of the estuary. Map number 3 illustrates the aquatic system with channel axes and axial distances marked.

The main body of this report is a data report. In general, parameters are presented in tabular form as well as graphically.

Figure 1. Map of the Chesapeake Bay area. An arrow points to the location of the Rhode River subestuary.



Chesapeake Bay Region

Washington
D.C.

PA.
MD.

N.J.

DELAWARE BAY

DEL.
MD.

MD
VA

Richmond

CHESAPEAKE BAY

ATLANTIC OCEAN

SCALE

NAUTICAL MILES

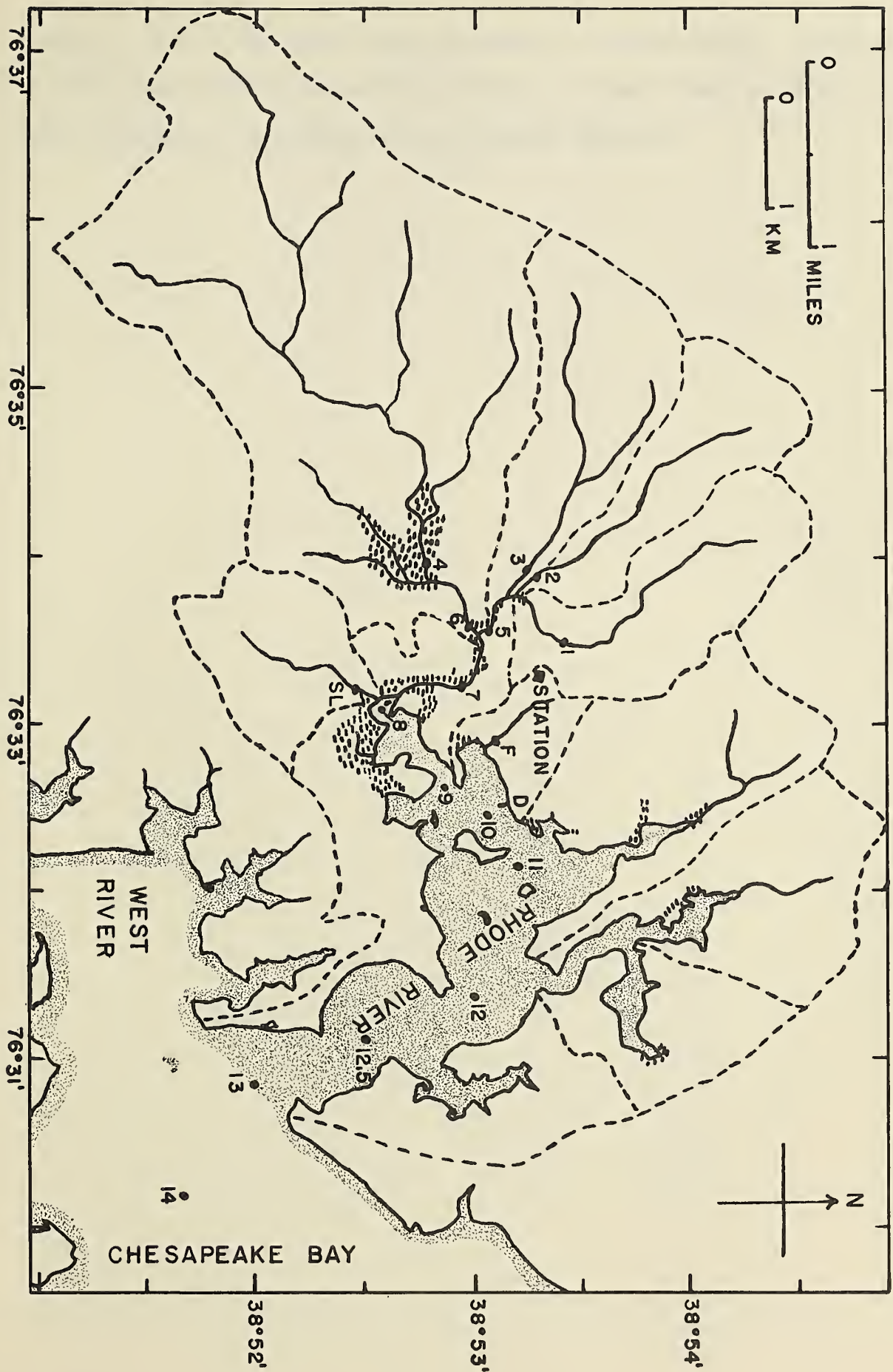
0 5 10 15 20 25

STATUTE MILES

0 5 10 15 20 25

Hampton Rds.
Norfolk

Figure 2. Map of the Rhode River subestuary of Chesapeake Bay and its watershed. Subwatershed boundaries are delineated with dashed lines. Stream-gauging notch weirs, with automated discharge rate-recording and volume-integrated water sampling instrumentation are now operating at locations 1, 2, 3, SL, and F. Tidal flux stations with recording current meters and tide gauges interfaced with volume-integrated water samplers for incoming and for outgoing tidal waters are being instrumented at locations 9 (Fox Point flux section) and just downstream from 4 (Muddy Creek main branch flux section). D is the location of the Smithsonian boat dock.

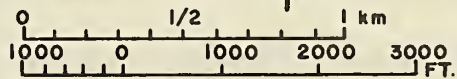


of the various arms of Rhode River are given. Channel axes are drawn in with axial distances in kilometers from the mouths upstream.

76°33'

76°32'

76°31'



38°54'

SELLMAN CR.

BEAR NECK CR.

WHITEMARSH CR.

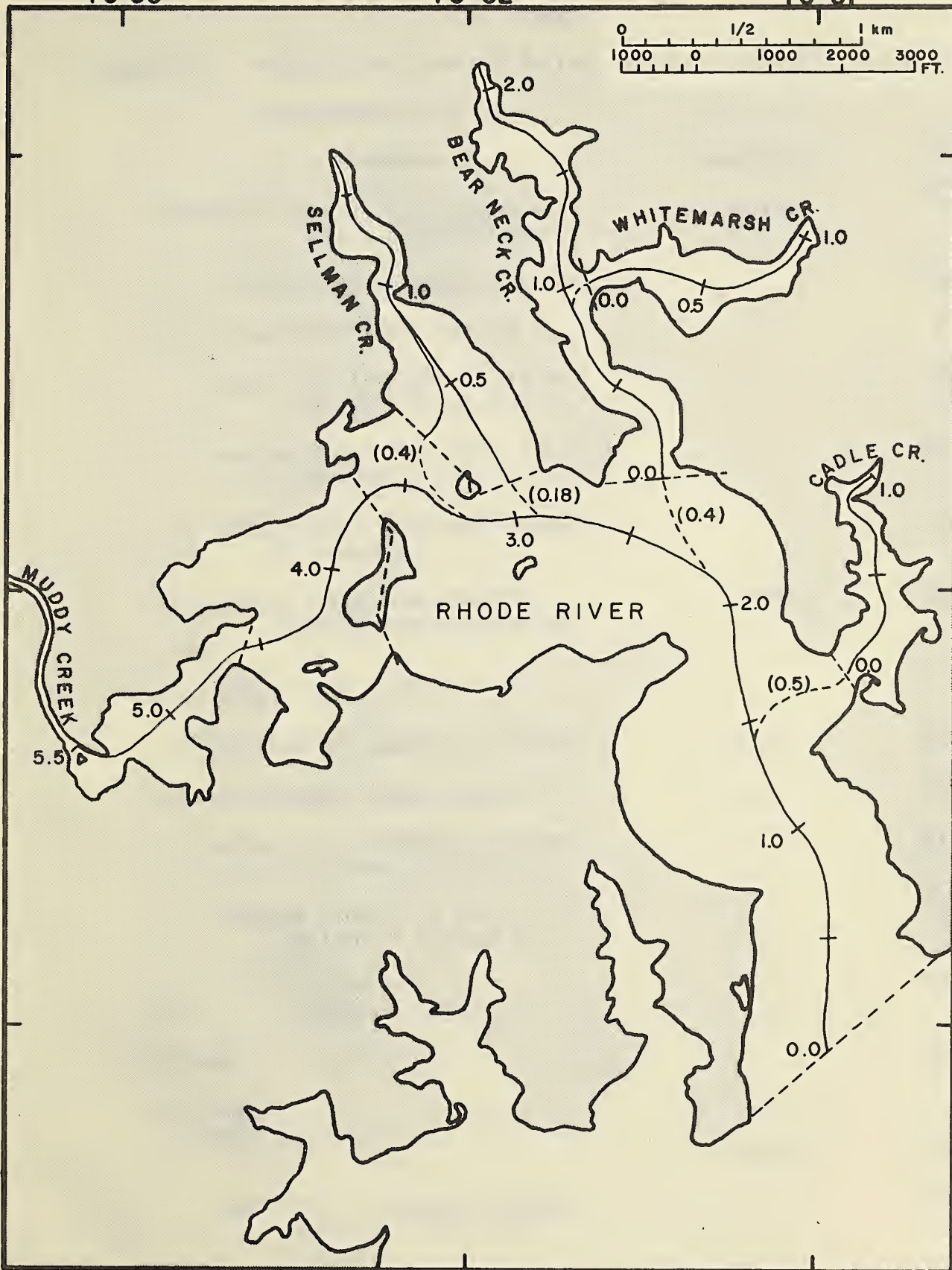
CADLE CR.

RHODE RIVER

MUDDY CREEK

38°53'

38°52'



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* See USGS open file report (in press and expected to be available in fall, 1974)

** See attached NASA report number CR-62094

*** Data not yet processed; will be added as a supplement at a later time.

List of Abbreviations

RR; Rhode River

CC; Cadle Creek

BNC; Bearneck Creek

WC; Whitemarsh Creek

SC; Sellman Creek

MC; Muddy Creek

SL; Steinlein Creek

Note about Graphs: Plus symbols for data points always refer to left hand axis; dot symbols for data points refer to right hand axis.

Note about Funding: The preparations of this report was funded by the Smithsonian Institutions Environmental Sciences Program. The largest single source of support for the research work reported in this report was a grant from the program for Research Applied to National Needs of the National Science Foundation. This grant was administered by the Chesapeake Research Consortium.

Surface and Bottom Water Stations (maps 2 and 3)

Phosphorus (ug P/liter)

Phosphorus - Total Phosphorus was measured after persulfate digestion and Orthophosphate-phosphorus by the stannous chloride procedure. Dissolved values were obtained on samples after filtration through 0.45u pore membrane filters (American Public Health Association, 1971. "Standard Methods for the Examination of Water and Waste Water". 13th ed. APHA, New York).

Principal Investigator: David L. Correll, Radiation Biology Laboratory, Smithsonian Institution.

Research Funding: Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Sciences Program.

Rainfall

Phosphorus (ug P/liter)

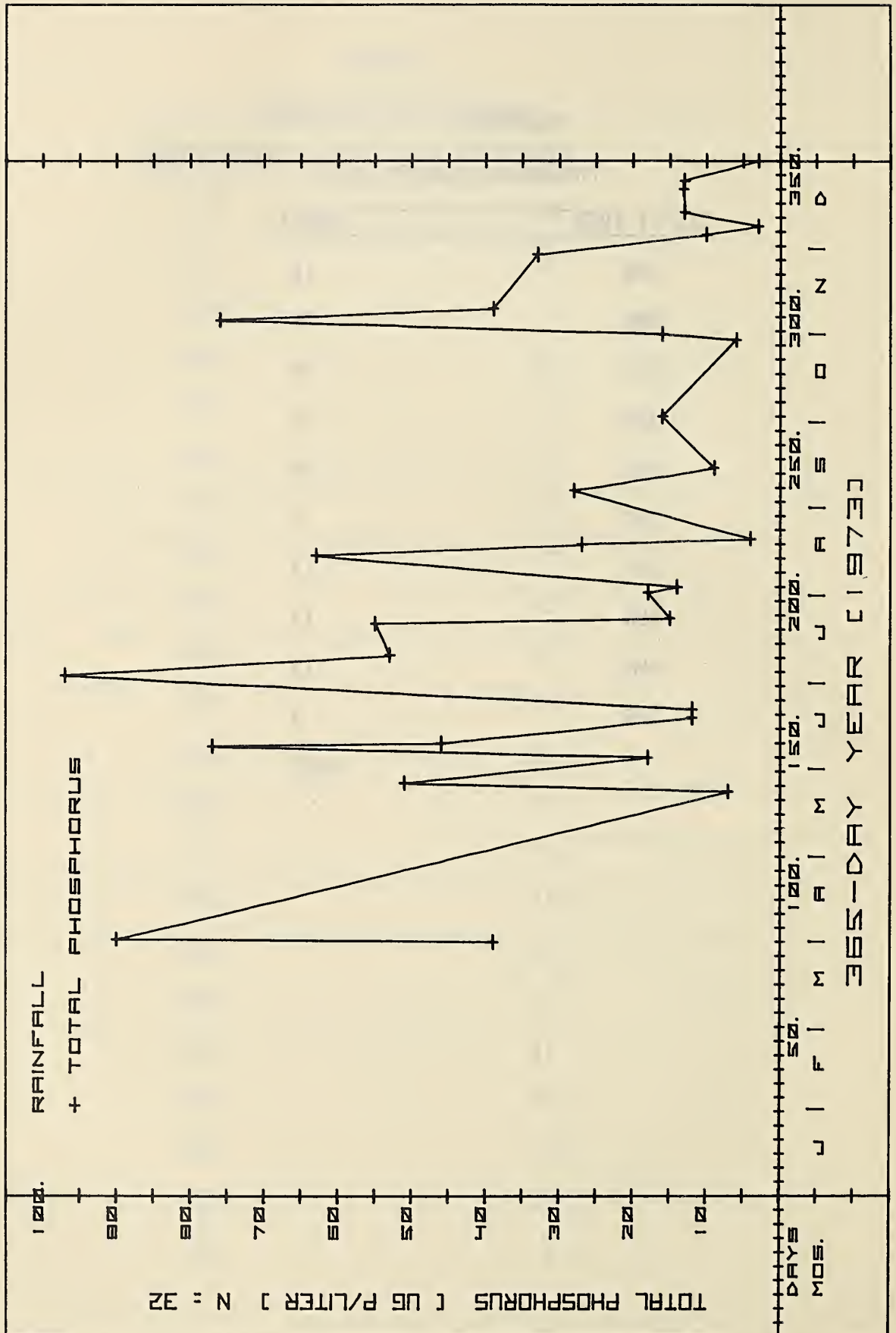
<u>Day of 1973</u>	<u>Total</u>
90	39
91	90
143	7
146	51
155	18
159	77
160	46
169	12
172	12
184	97
191	53
202	55
204	15
213	18
215	14
226	63
230	27
232	41
249	28
257	9
275	16
302	6

Rainfall

Phosphorus (ug P/liter)

<u>Day of 1973</u>	<u>Total</u>
304	16
309	76
313	39
332	33
339	10
342	3
347	13
355	13
358	13
365	3

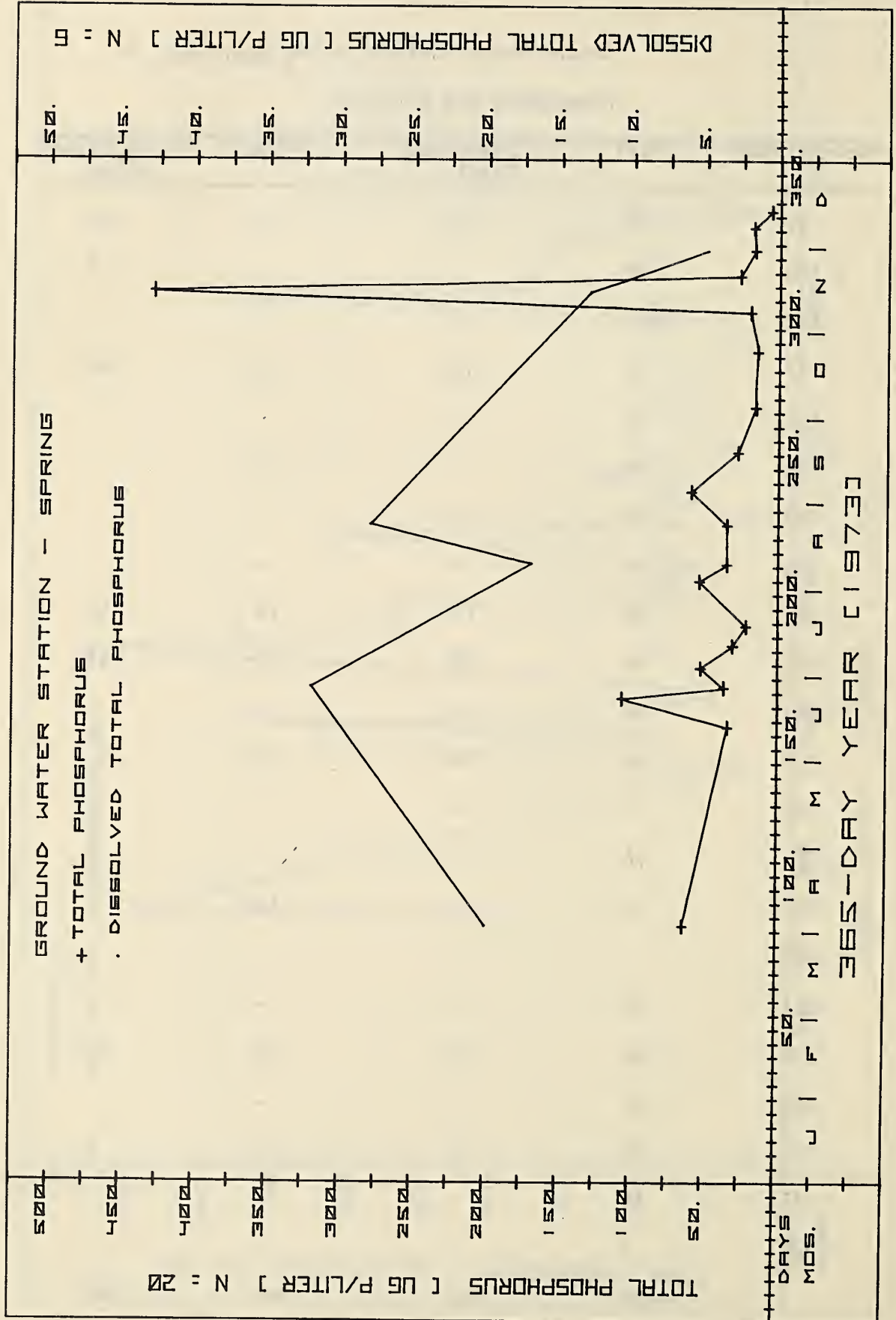
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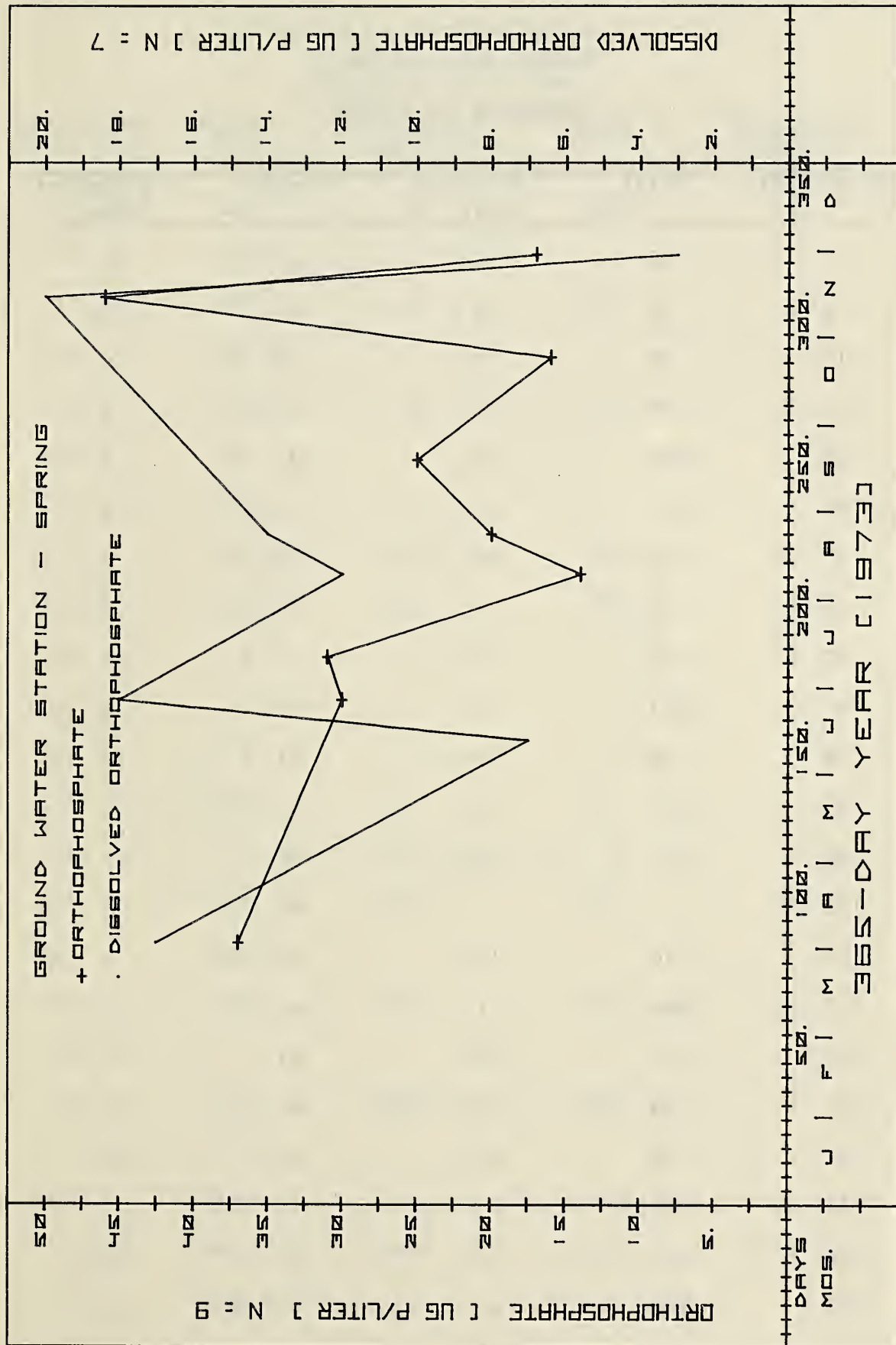


Ground Water Station Spring (near sta. 7)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved Total	Ortho	Dissolved Ortho
92	64	20	37	17
163	34	-	-	7
173	107	-	-	-
177	37	32	30	18
184	53	-	-	-
192	31	-	31	-
199	22	-	-	-
215	54	-	-	-
221	35	17	14	12
235	35	28	20	14
247	60	-	-	-
261	28	-	25	-
271	-	-	-	-
277	16	-	-	-
297	15	-	16	-
305	-	-	-	-
311	20	-	-	-
318	429	13	46	20
324	27	-	-	-
333	17	5	17	3
341	18	-	-	-
347	6	-	-	-
	N=20	N=6	N=9	N=7





Surface Water Station 1

Phosphorus (ug P/liter)

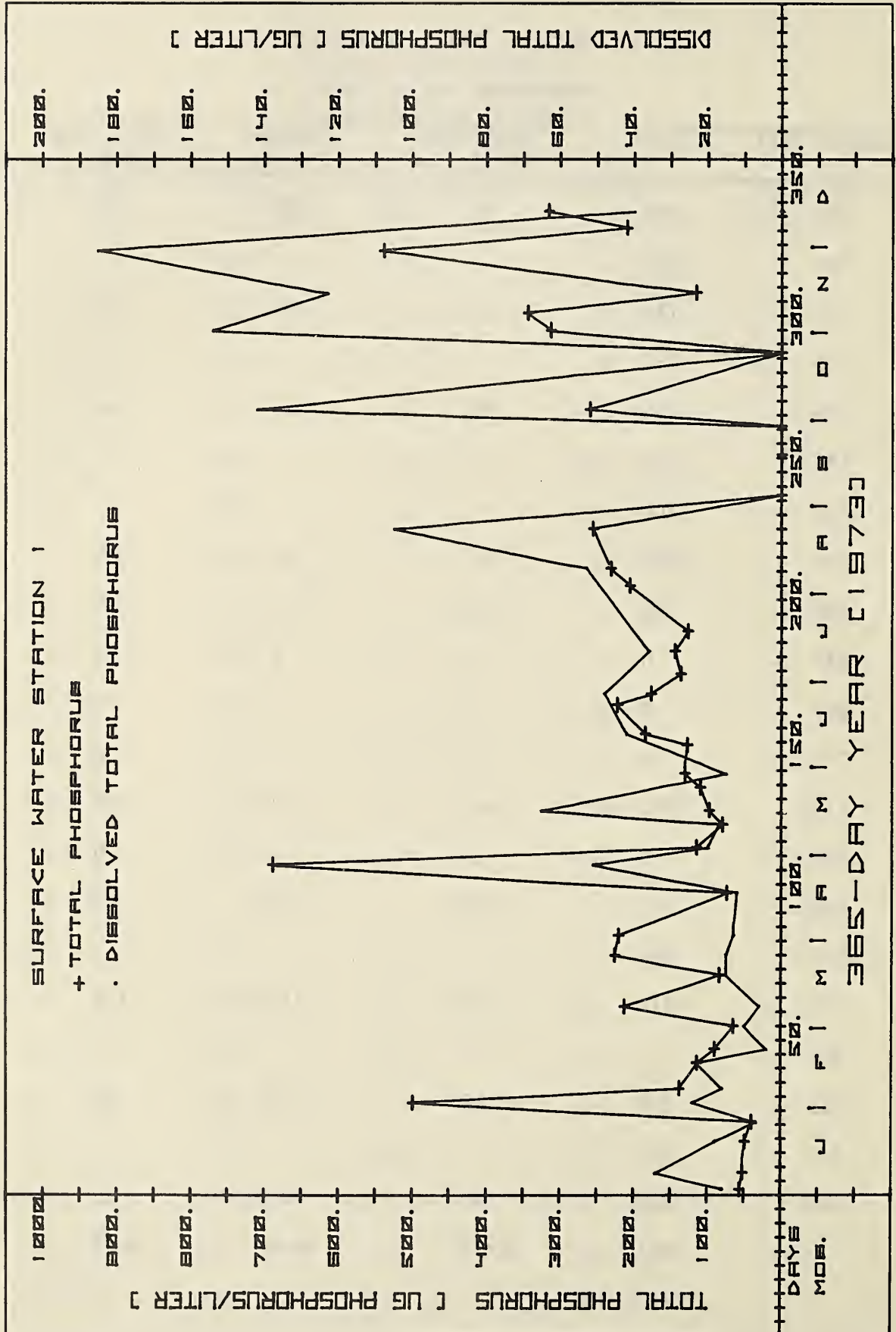
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	56	16	44	16
8	52	34	40	13
19	49	18	39	14
26	40	7	32	8
33	499	24	292	8
38	138	16	50	9
47	114	23	56	9
52	90	4	40	4
60	65	10	27	4
67	213	6	121	6
78	84	15	44	10
85	226	15	88	8
92	221	13	106	13
103	-	-	60	2
107	74	12	49	3
117	689	51	287	16
123	115	20	53	11
131	80	17	85	13
136	98	65	60	14
144	110	-	-	-
149	131	15	108	14
159	128	-	-	-

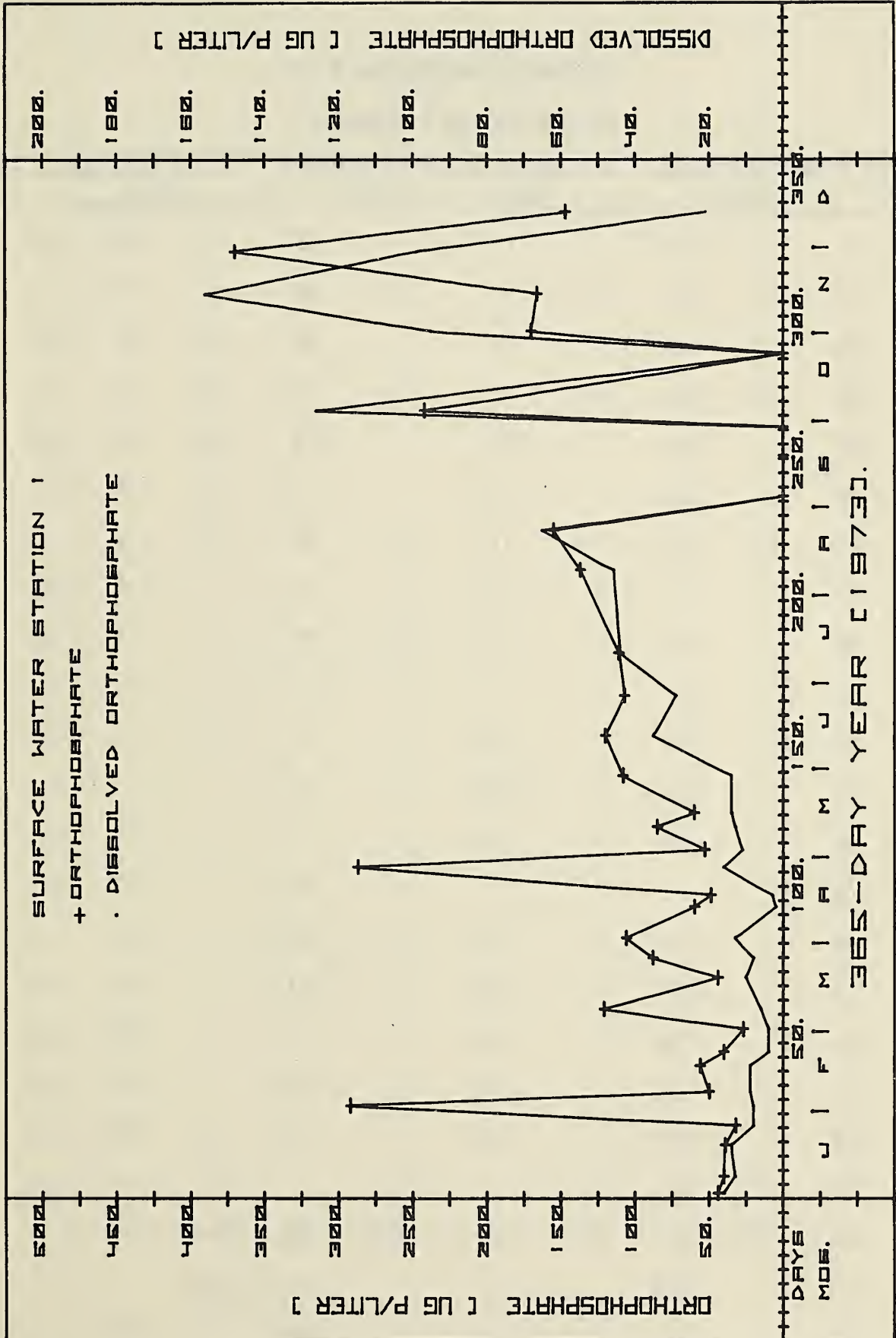
Surface Station 1 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved Total	Ortho	Dissolved Ortho
163	185	42	120	35
173	223	-	-	-
177	177	48	107	29
184	137	-	-	-
192	145	36	111	44
199	127	-	-	-
215	206	-	-	-
221	232	53	137	46
235	256	105	155	65
247	0	0	0	0
261	0	0	0	0
271	0	0	0	0
277	260	142	242	126
297	0	0	0	0
305	313	154	170	95
311	344	-	-	-
318	116	123	166	156
324	-	-	-	-
333	539	185	370	99
341	210	-	-	-
347	316	40	147	21
	N=41	N=33	N=34	N=34

0=No Flow





Surface Water Station 2

Phosphorus (ug P/liter)

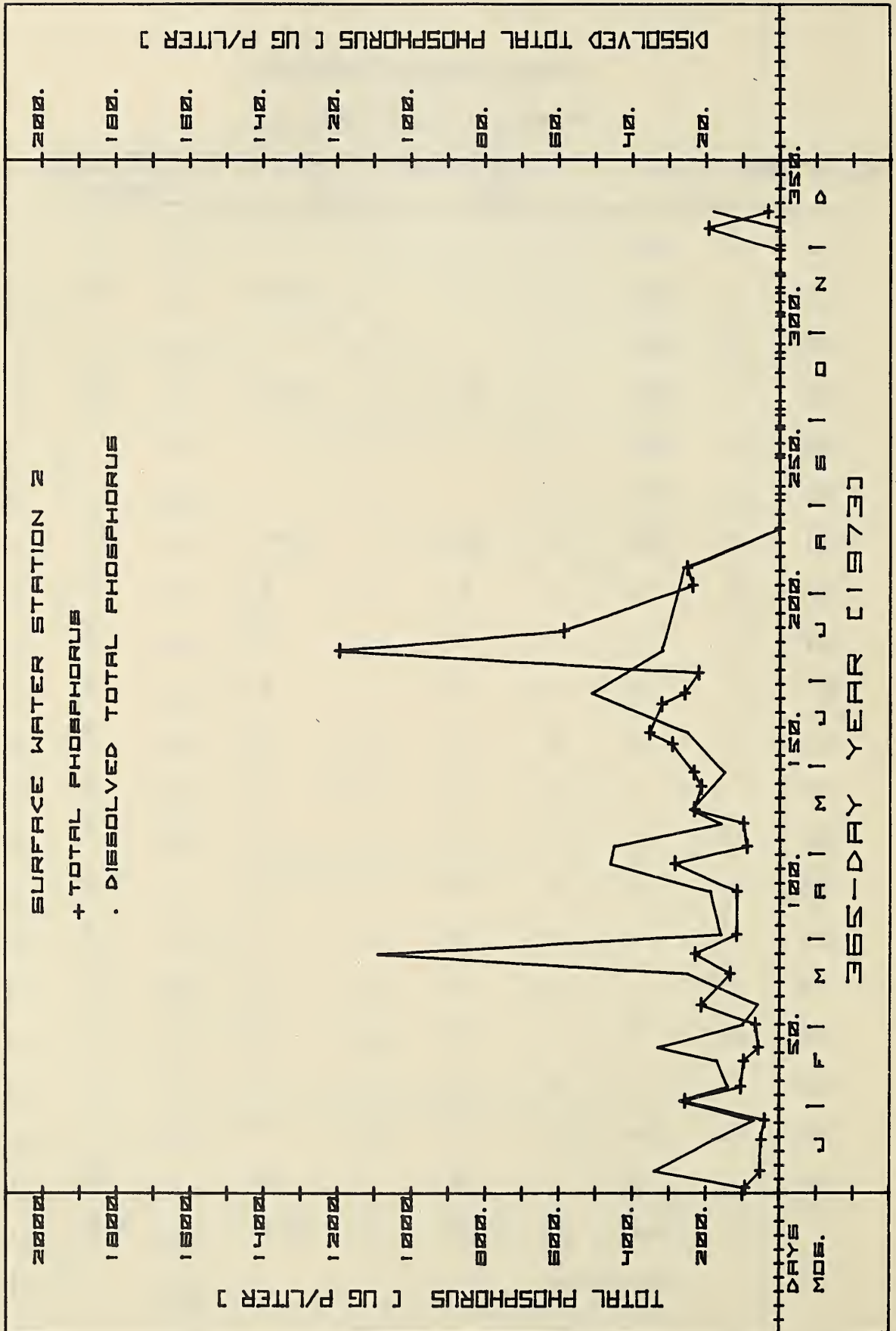
Day of 1973	Total	Dissolved Total	Ortho	Dissolved Ortho
2	93	10	65	10
8	52	34	40	13
19	49	18	39	14
26	40	7	32	8
33	257	27	175	10
38	105	14	54	9
47	97	17	53	5
52	57	33	45	6
60	65	10	27	4
67	213	6	121	6
78	134	25	81	16
85	230	109	87	7
92	117	16	76	13
103	-	-	90	10
107	116	19	62	10
117	285	46	157	17
123	89	45	75	18
131	98	16	140	15
136	232	24	78	21
144	213	-	-	-
149	233	15	138	17
159	292	-	-	-
163	354	25	209	37

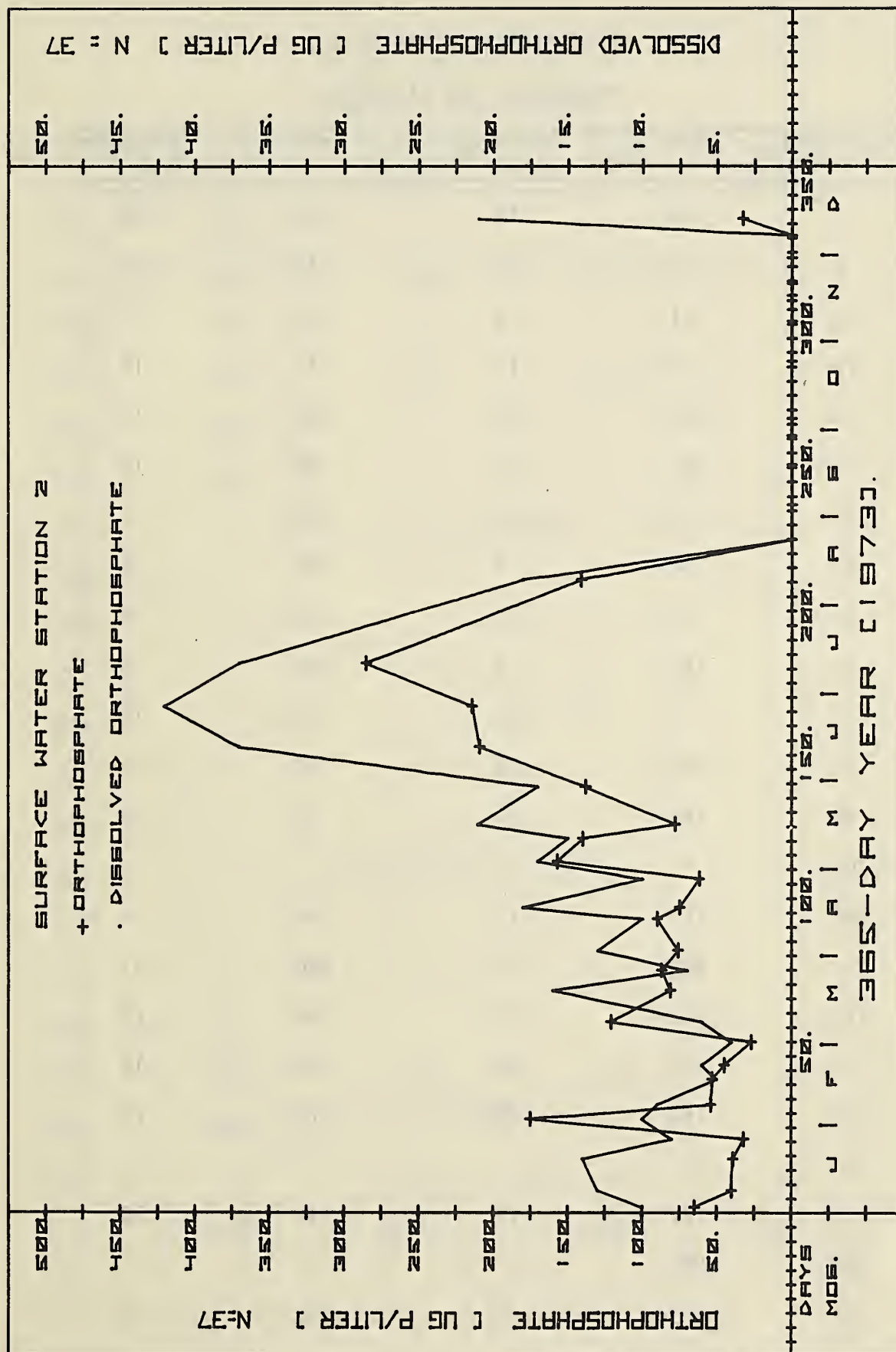
Surface Station 2 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	321	-	-	-
177	259	51	214	42
184	222	-	-	-
192	1195	32	285	37
199	587	-	-	-
215	237	-	-	-
221	252	26	141	18
235	0	0	0	0
247	0	0	0	0
261	0	0	0	0
271	0	0	0	0
277	0	0	0	0
297	0	0	0	0
305	0	0	0	0
311	0	0	0	0
318	0	0	0	0
324	0	0	0	0
333	0	0	0	0
341	194	0	0	0
347	32	18	33	21
	N=42	N=36	N=37	N=37

0=No Flow





Surface Water Station 3

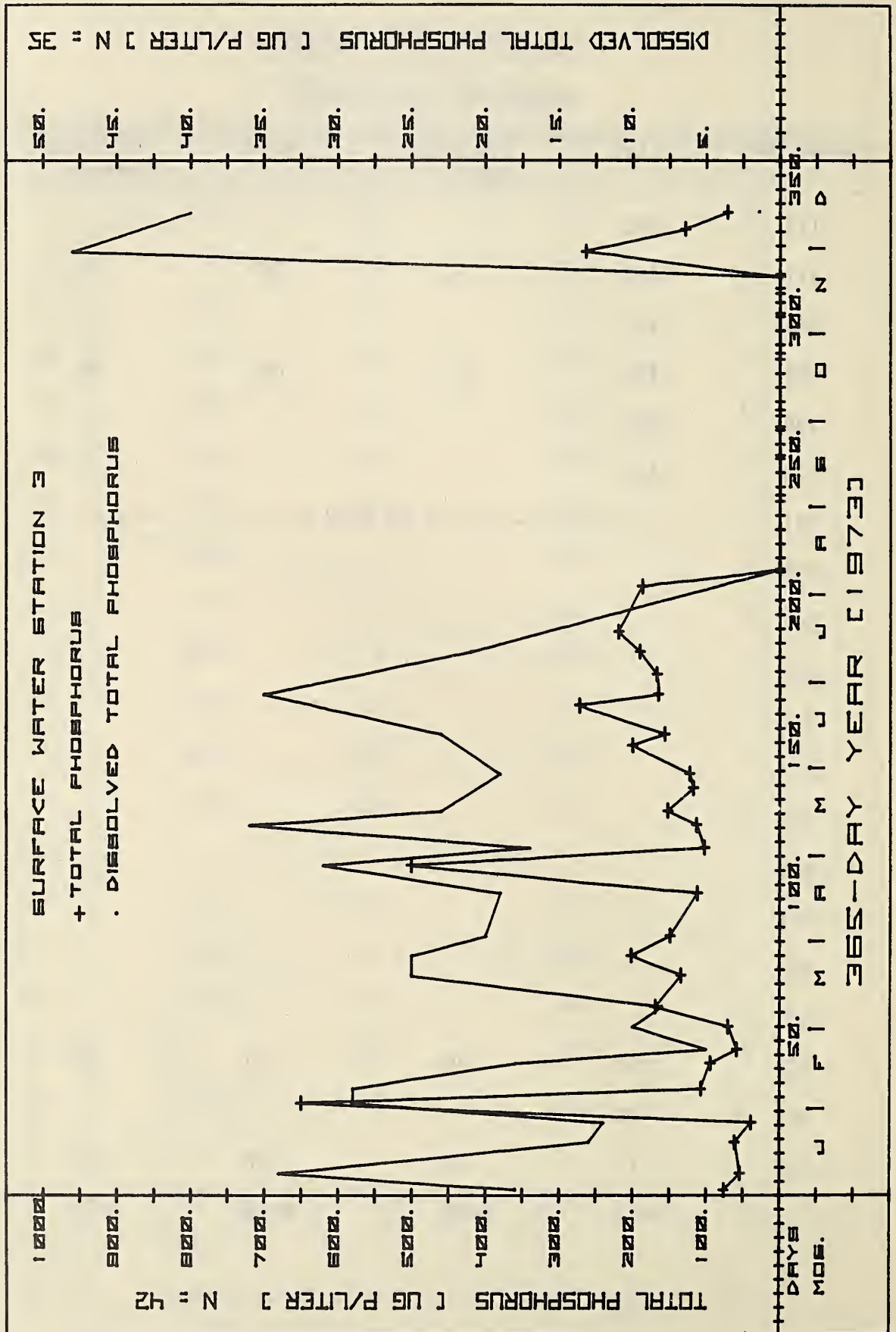
Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	76	18	57	20
8	54	34	43	13
19	61	13	44	17
26	39	12	41	12
33	650	29	234	13
38	107	29	66	15
47	94	18	62	8
52	58	5	48	7
60	70	10	37	8
67	169	8	108	6
78	134	25	81	16
85	202	25	78	13
92	149	20	92	20
103	-	-	-	-
107	112	19	64	9
117	501	31	250	21
123	102	17	88	20
131	113	36	83	19
136	152	23	74	21
144	117	-	-	-
149	122	19	114	19
159	200	-	-	-
163	156	23	133	29

Surface Station 3 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	272	-	-	-
177	165	35	137	23
184	167	-	-	-
192	190	21	143	26
199	219	-	-	-
215	187	-	-	-
221	----- NO FLOW -----			
235		"	"	
247		"	"	
261		"	"	
271		"	"	
277		"	"	
297		"	"	
305		"	"	
311		"	"	
318		"	"	
324		"	"	
333	264	48	190	35
341	129	-	-	-
347	71	40	57	29
	N=42	N=35	N=36	N=36



Surface Water Station 4

Phosphorus (ug P/liter)

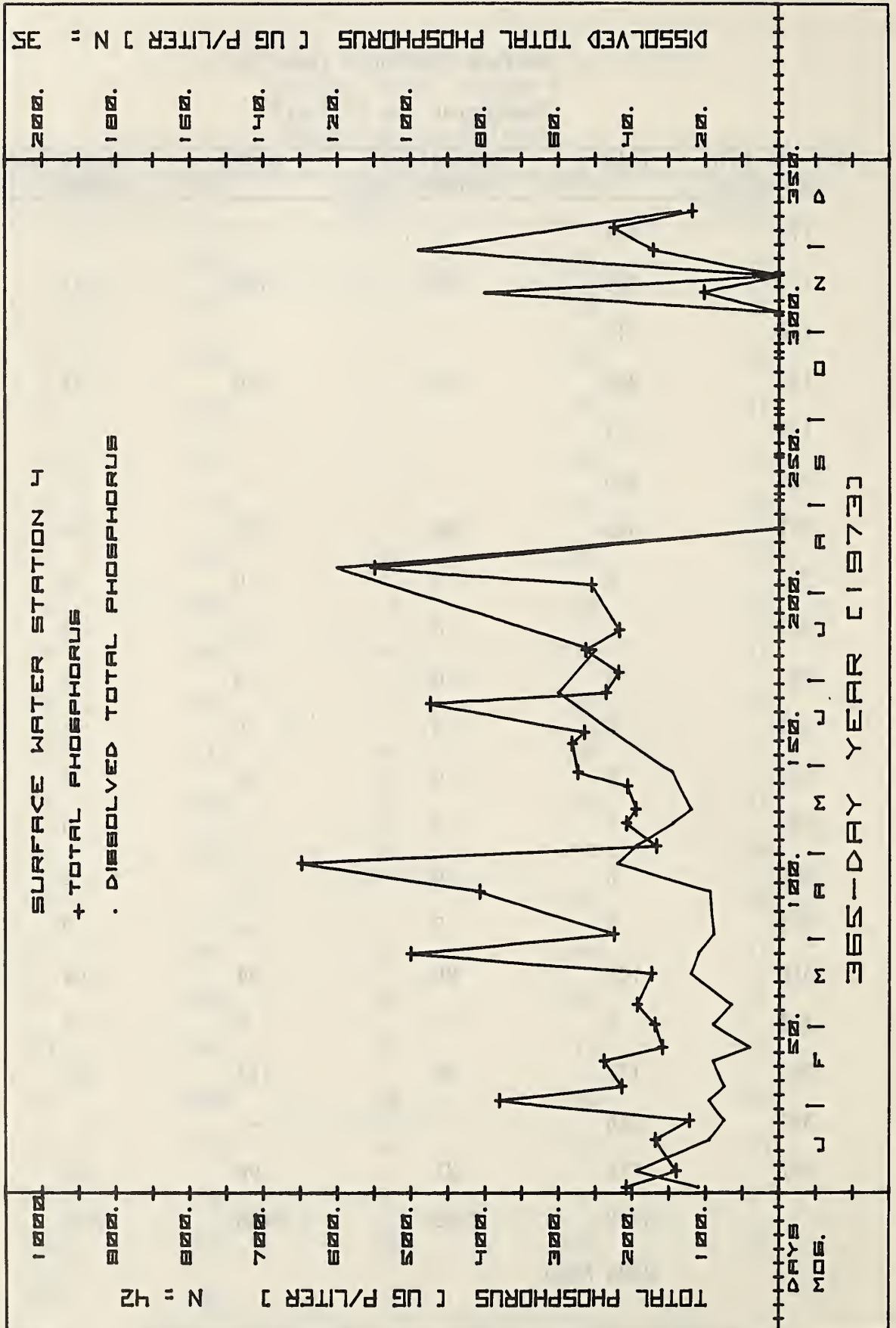
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	208	22	106	19
8	140	39	103	17
19	168	19	122	23
26	122	15	89	17
33	380	19	236	14
38	214	15	150	15
47	238	18	164	10
52	158	8	130	13
60	169	18	117	11
67	193	13	140	16
78	173	24	123	21
85	500	22	189	17
92	225	18	180	26
103	-	-	160	24
107	407	19	209	16
117	648	44	384	27
123	167	39	72	23
131	208	29	170	44
136	195	24	133	23
144	206	-	-	-
149	274	29	236	32
159	282	-	-	-
163	265	45	216	60

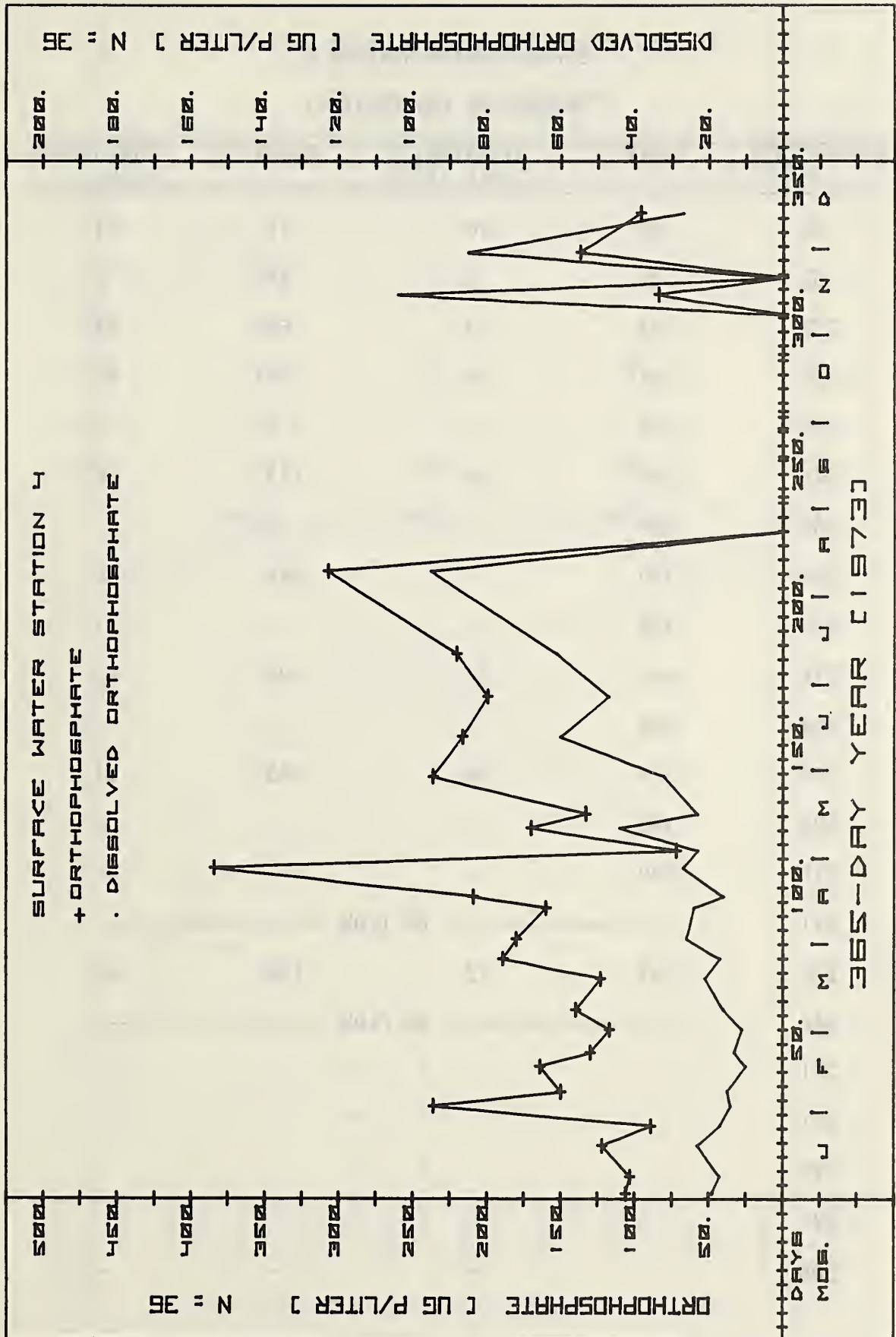
Surface Station 4 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	474	-	-	-
177	235	60	199	47
184	218	-	-	-
192	263	50	220	61
199	217	-	-	-
215	255	-	-	-
221	549	120	307	95
235	0	0	0	0
247	0	0	0	0
261	0	0	0	0
271	0	0	0	0
277	0	0	0	0
297	0	0	0	0
305	0	0	0	0
311	0	0	0	0
318	102	80	84	104
324	0	0	0	0
333	171	98	137	85
341	225	-	-	-
347	118	27	96	27
	N=42	N=35	N=36	N=36

0=No Flow





Surface Water Station SL

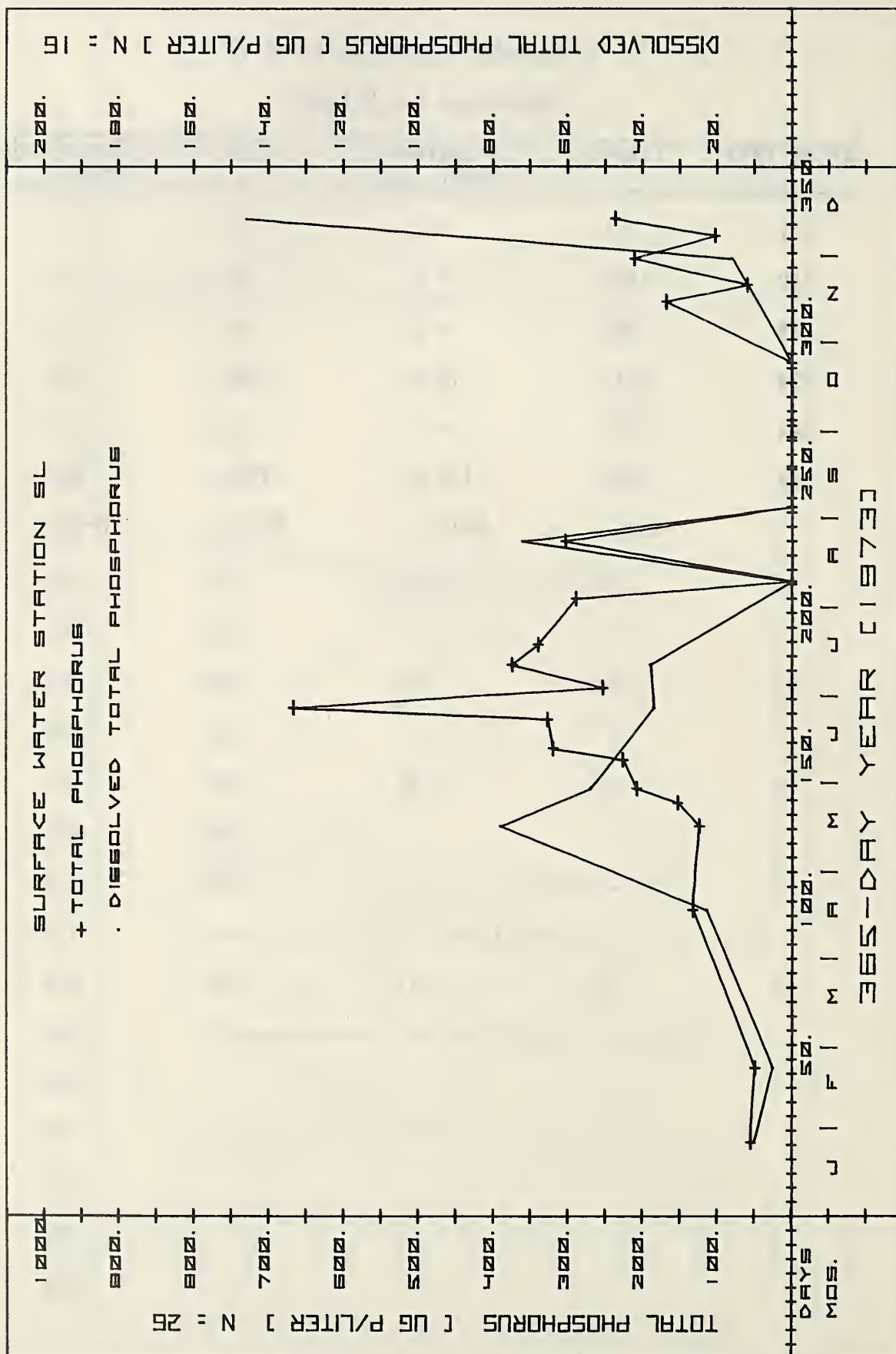
Phosphorus (ug P/liter)

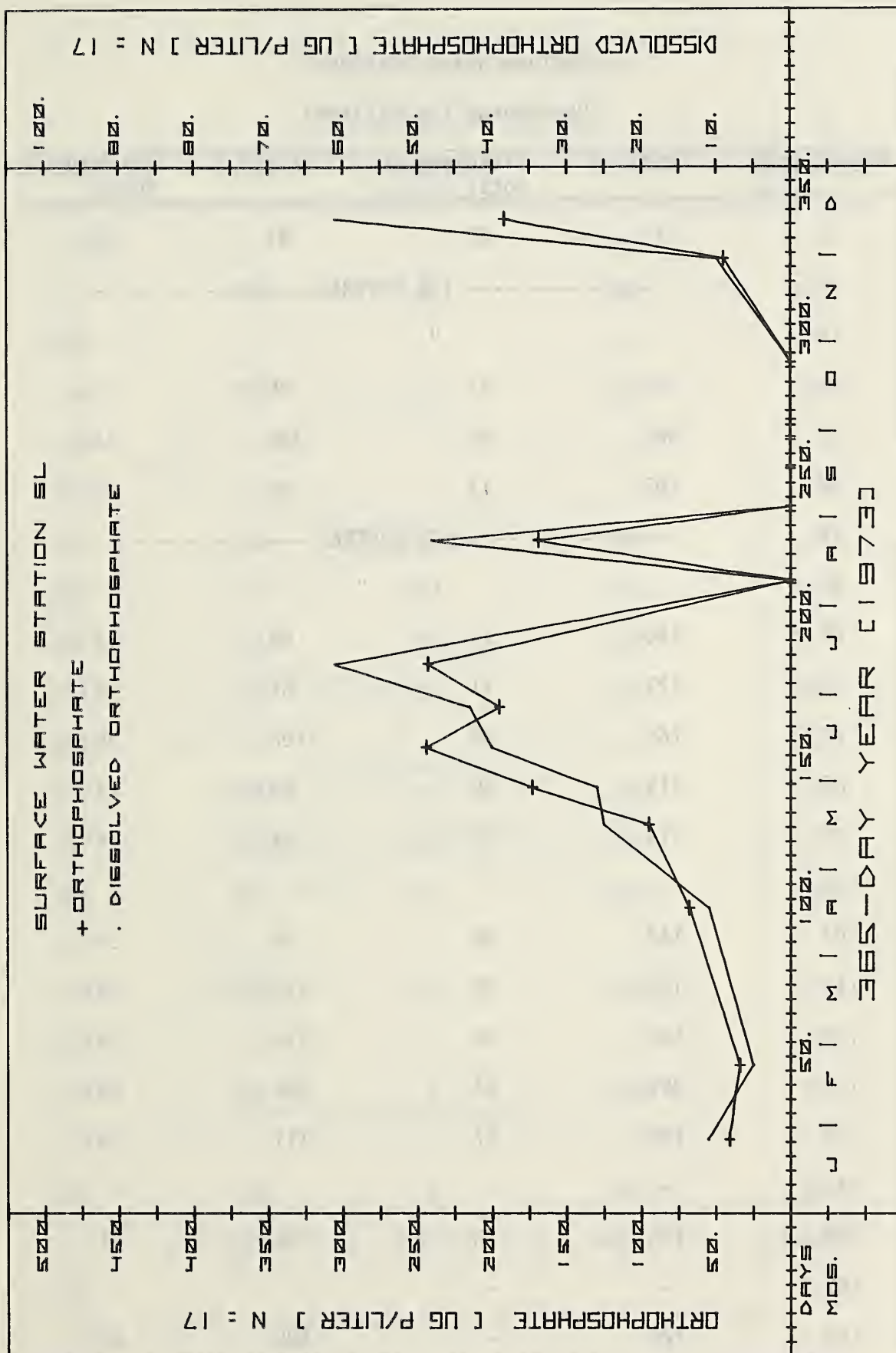
Day of 1973	Total	Dissolved Total	Ortho	Dissolved Ortho
26	55	10	41	11
52	49	5	34	5
107	133	23	68	11
136	124	78	95	25
144	153	-	-	-
149	208	54	173	26
159	227	-	-	-
163	320	-	244	40
173	328	-	-	-
177	667	37	195	43
184	254	-	-	-
192	375	38	243	61
199	340	-	-	-
215	289	-	-	-
221	----- NO FLOW -----			-----
235	303	72	169	48
247	----- NO FLOW -----			-----
261		" "		
271		" "		
277		" "		
297		" "		
305	-	-	-	-

Surface Station SL (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved Total	Ortho	Dissolved Ortho
311	-	-	-	-
318	168	-	-	-
324	60	-	-	-
333	211	16	45	10
341	103	-	-	-
347	237	146	192	61
	N=26	N=16	N=17	N=17





Surface Water Station 5

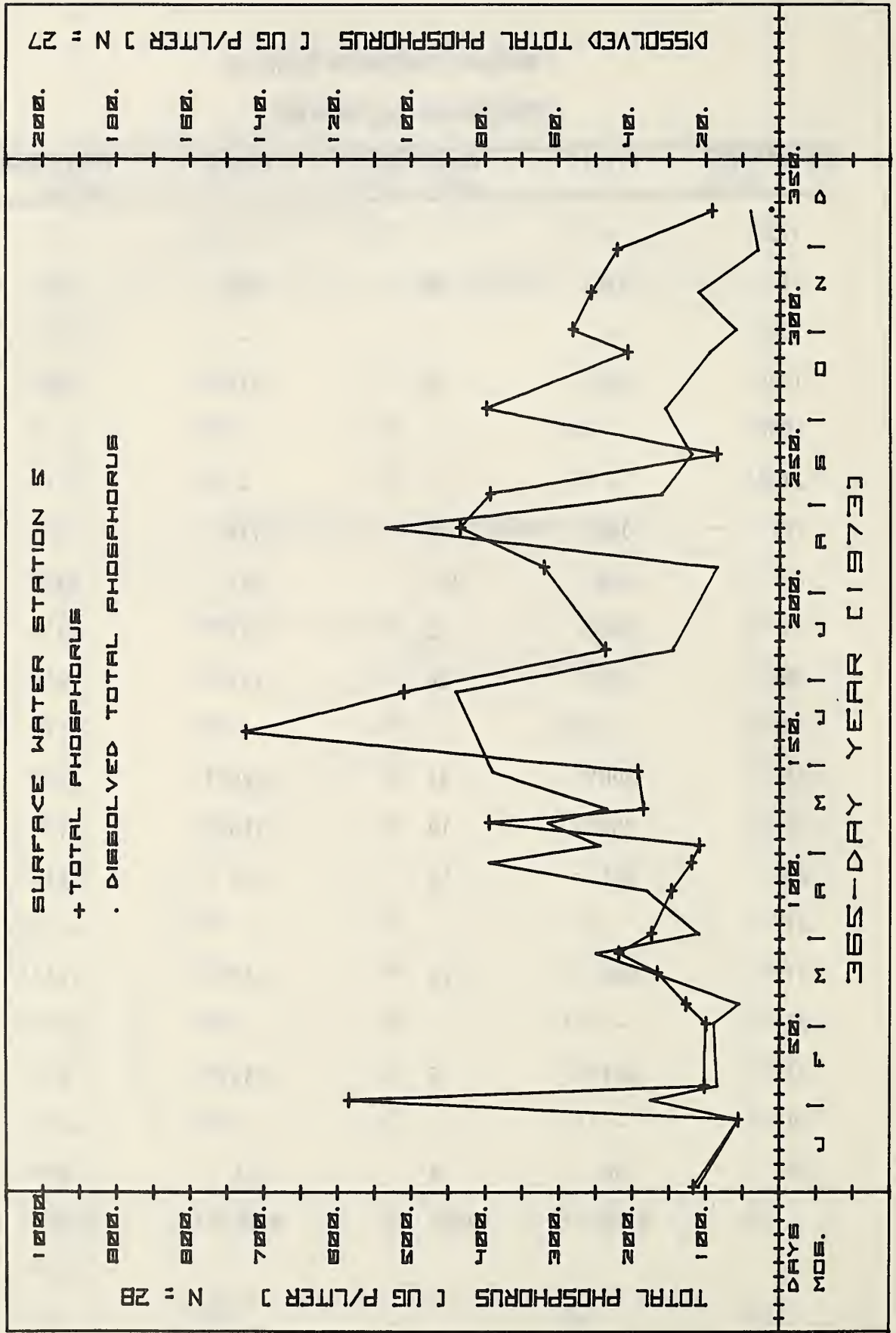
Phosphorus (ug P/liter)

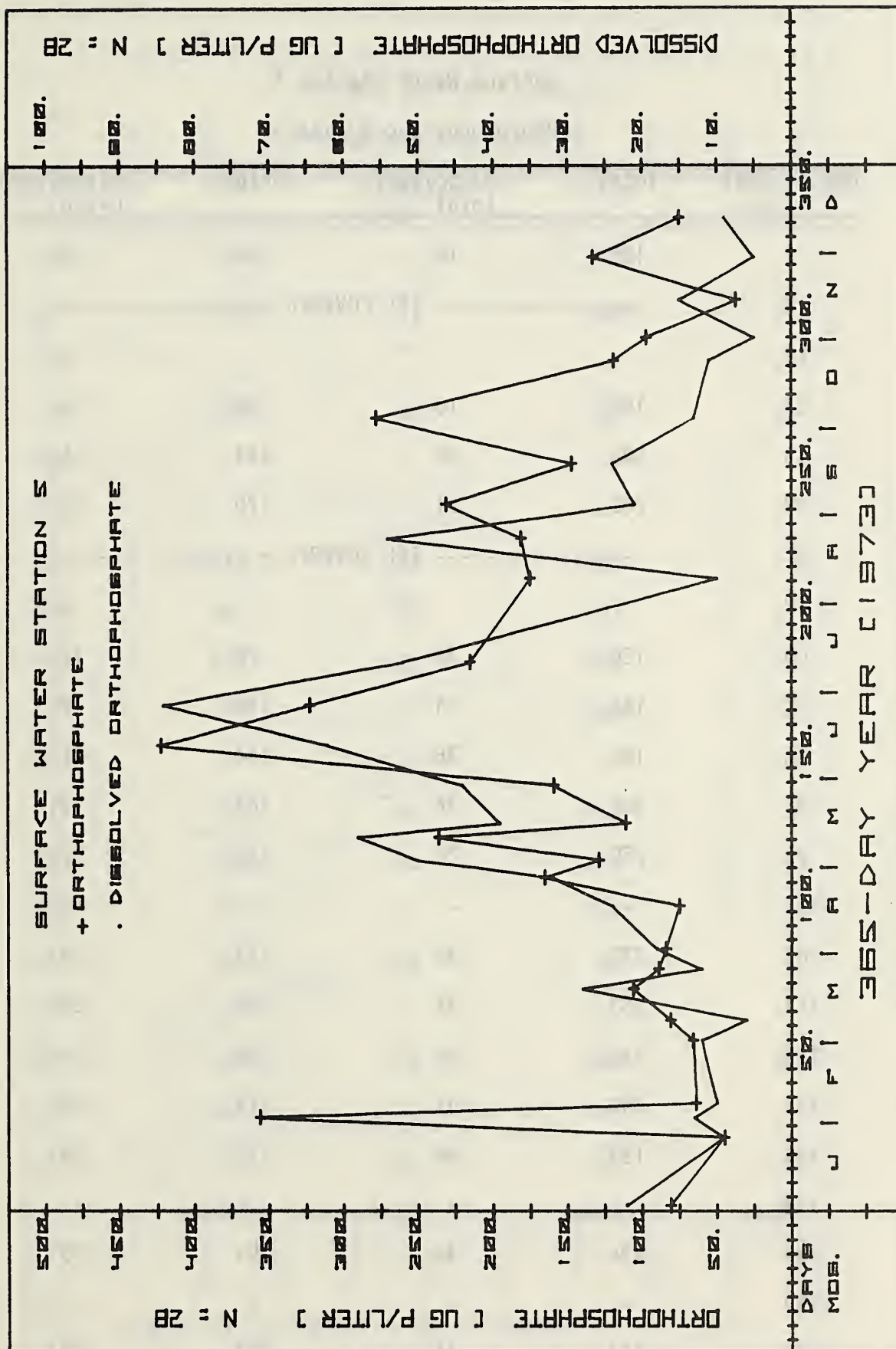
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	117	22	81	22
8	----- ICE COVERED-----			
19	" "			
26	56	11	45	9
33	585	35	356	13
38	102	17	64	10
47	----- ICE COVERED -----			
52	" "			
60	100	18	66	12
67	127	11	81	6
78	166	34	106	28
85	219	50	89	12
92	174	22	84	18
103	-	-	-	-
107	147	36	75	24
117	120	79	165	32
123	109	49	129	50
131	395	63	236	58
136	185	47	111	39
144	-	-	-	-
149	193	78	159	44
159	-	-	-	-
163	724	-	422	62

Surface Station 5 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	-	-	-	-
177	510	88	322	84
184	-	-	-	-
192	237	29	215	52
199	-	-	-	-
215	-	-	-	-
221	320	17	175	10
235	434	107	181	54
247	393	32	231	21
261	85	24	147	24
271	-	-	-	-
277	398	31	278	13
297	206	19	119	11
305	281	12	97	5
311	-	-	-	-
318	256	22	37	15
324	-	-	-	-
333	221	6	133	5
341	-	-	-	-
347	92	8	75	9
	N=28	N=27	N=28	N=28





Surface Water Station 6

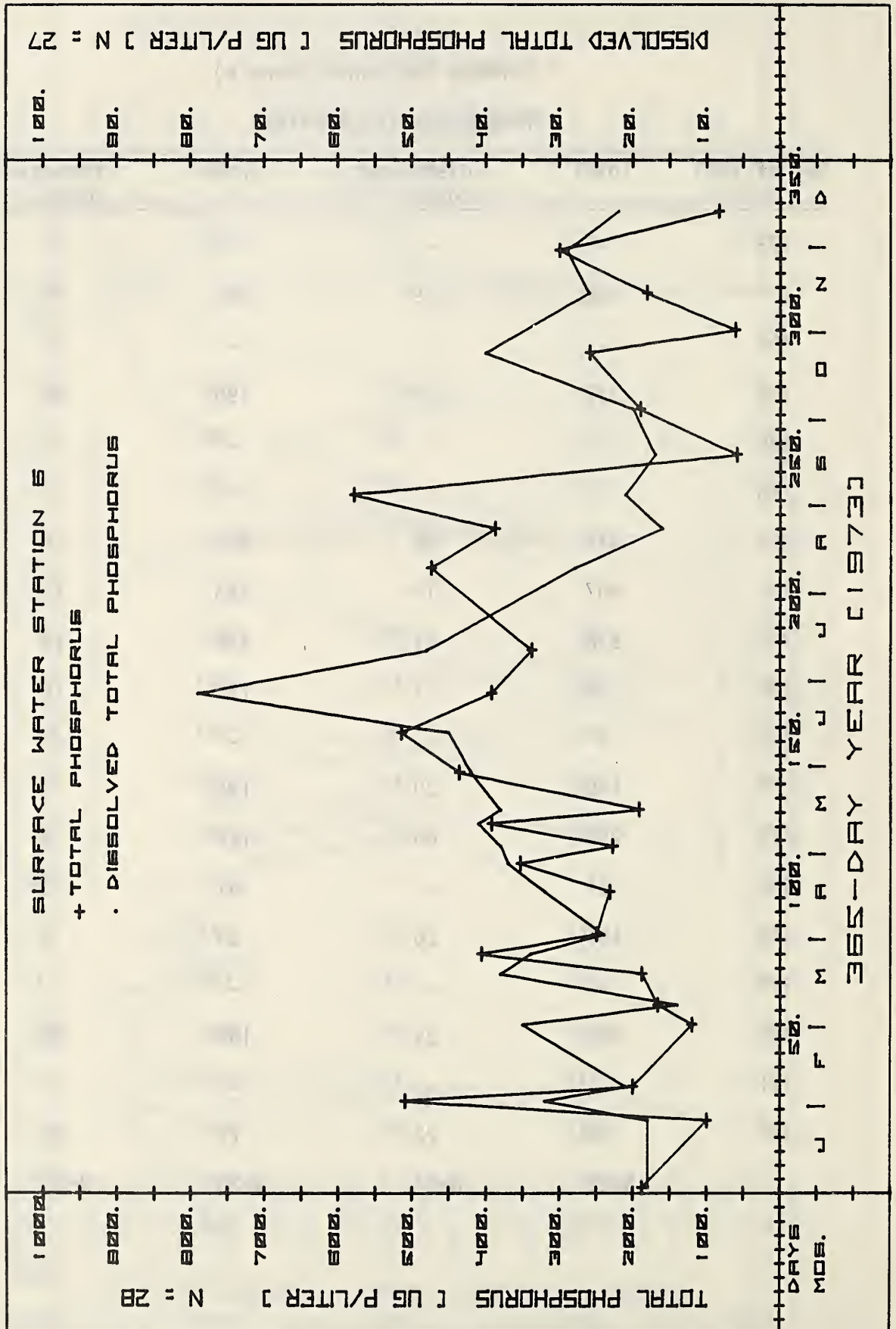
Phosphorus (ug P/liter)

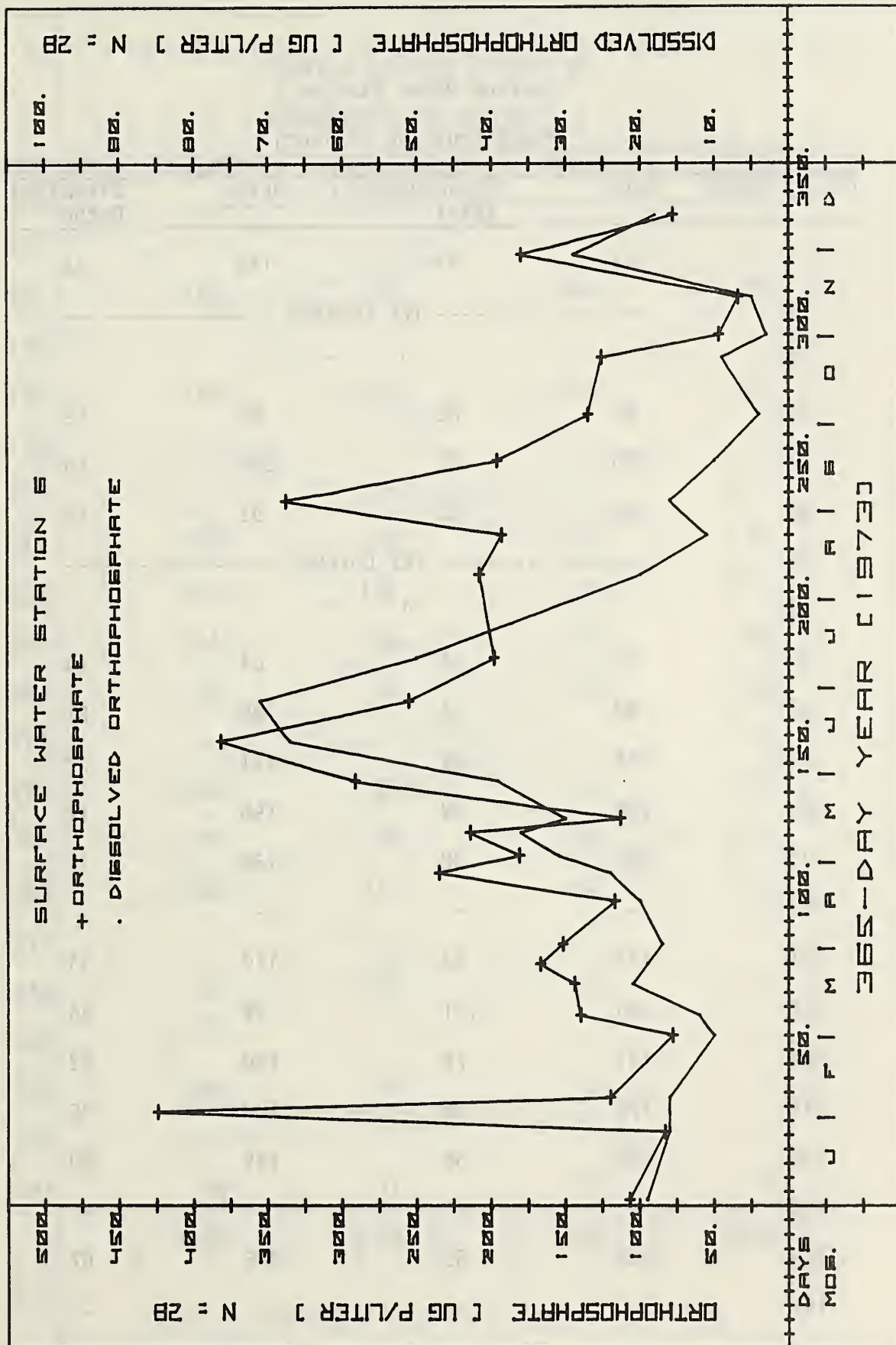
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	188	18	107	19
8	----- ICE COVERED -----			
19	" "			
26	100	18	83	16
33	509	32	424	16
38	200	21	120	16
47	----- ICE COVERED -----			
52	" "			
60	120	35	78	10
67	166	14	140	12
78	188	38	144	21
85	406	34	167	19
92	250	24	152	17
103	-	-	-	-
107	232	32	117	20
117	353	37	235	24
123	228	38	181	31
131	392	41	214	36
136	192	38	113	30
144	-	-	-	-
149	436	42	291	39
159	-	-	-	-
163	514	45	381	67

Surface Station 6 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	-	-	-	-
177	392	79	255	71
184	-	-	-	-
192	338	48	198	50
199	-	-	-	-
215	-	-	-	-
221	474	28	208	20
235	387	16	193	11
247	578	21	338	16
261	59	17	196	10
271	-	-	-	-
277	190	20	135	4
297	259	40	126	9
305	61	-	47	3
318	181	26	34	5
324	-	-	-	-
333	300	29	180	29
341	-	-	-	-
347	83	22	78	18
	N=28	N=27	N=28	N=28





Surface Water Station 7

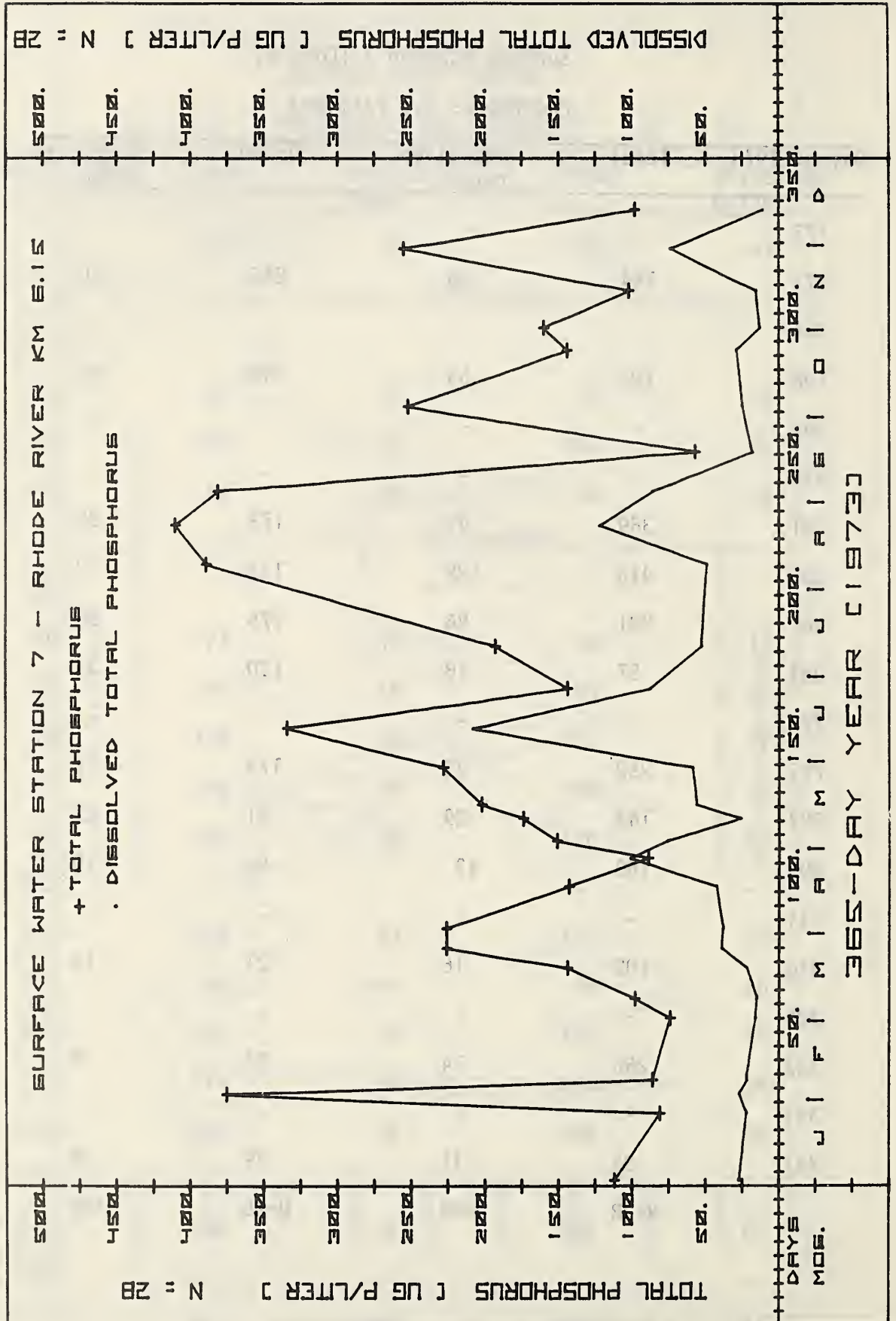
Phosphorus (ug P/liter)

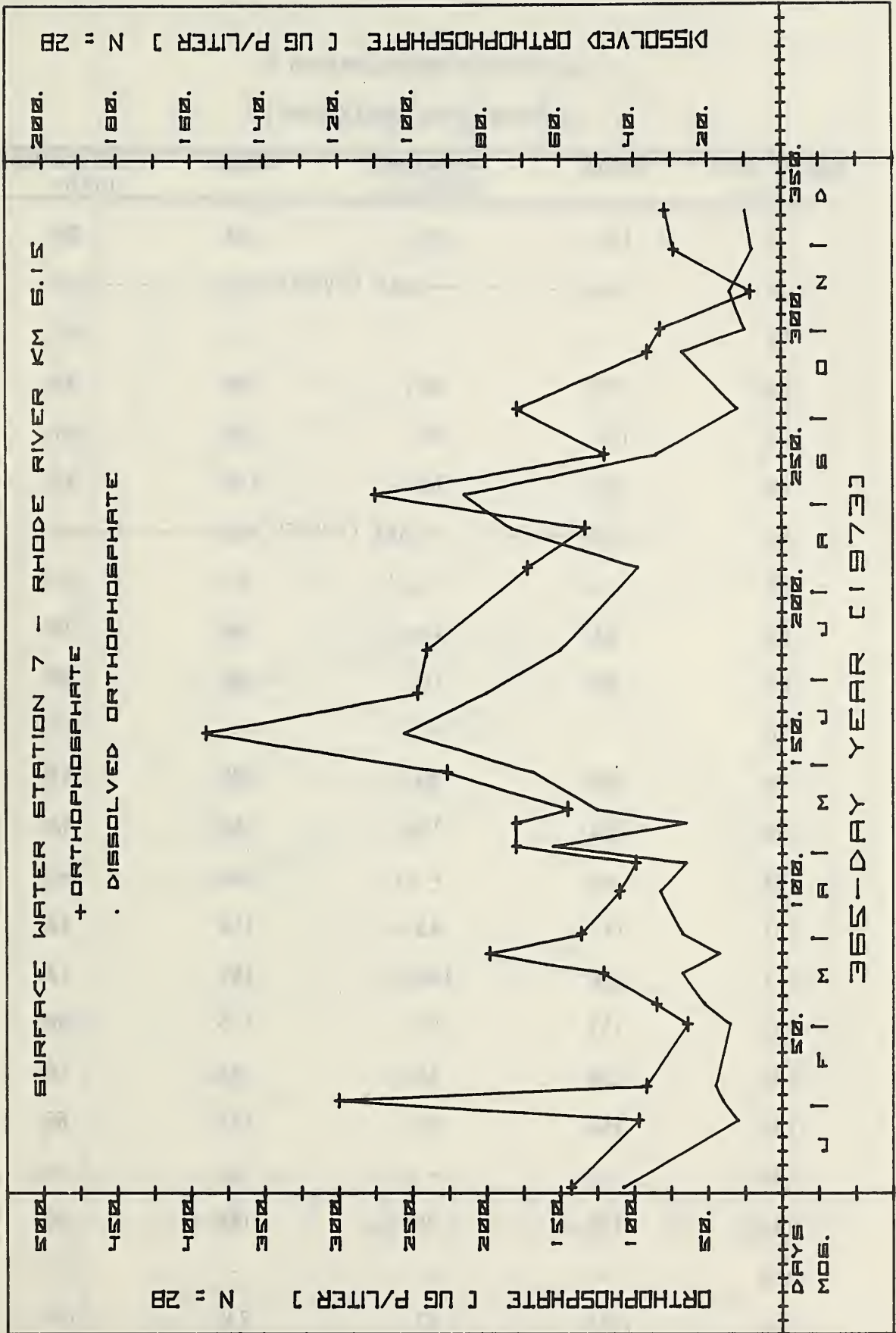
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	112	27	143	43
8	----- ICE COVERED -----			
19		" "		
26	81	22	97	12
33	375	27	300	16
38	86	22	92	18
47	----- ICE COVERED -----			
52		" "		
60	74	16	64	14
67	98	15	85	21
78	144	22	121	27
85	226	39	198	17
92	226	38	136	27
103	-	-	-	-
107	143	43	110	33
117	89	101	99	26
123	151	76	180	62
131	174	26	180	26
136	202	56	145	50
144	-	-	-	-
149	228	59	226	67
159	-	-	-	-
163	334	208	389	102

Surface Station 7 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	-	-	-	-
177	144	88	246	80
184	-	-	-	-
192	193	53	240	60
199	-	-	-	-
215	-	-	-	-
221	389	49	172	39
235	410	122	133	73
247	381	86	275	86
261	57	18	120	34
271	-	-	-	-
277	252	25	179	12
297	144	29	91	27
305	160	13	82	10
311	-	-	-	-
318	102	16	21	14
324	-	-	-	-
333	255	74	73	8
341	-	-	-	-
347	98	11	79	10
	N=28	N=28	N=28	N=28





Surface Water Station 8

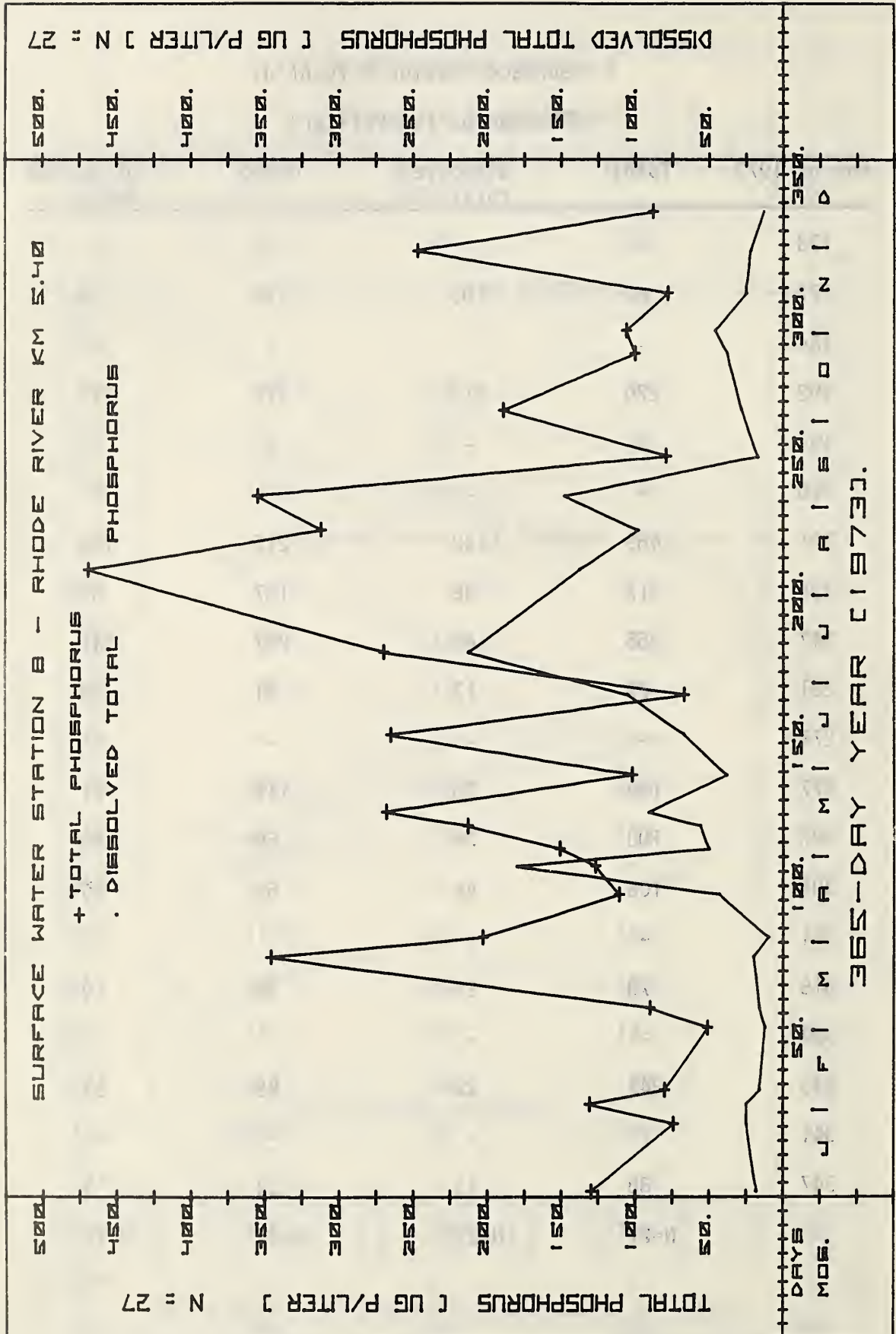
Phosphorus (ug P/liter)

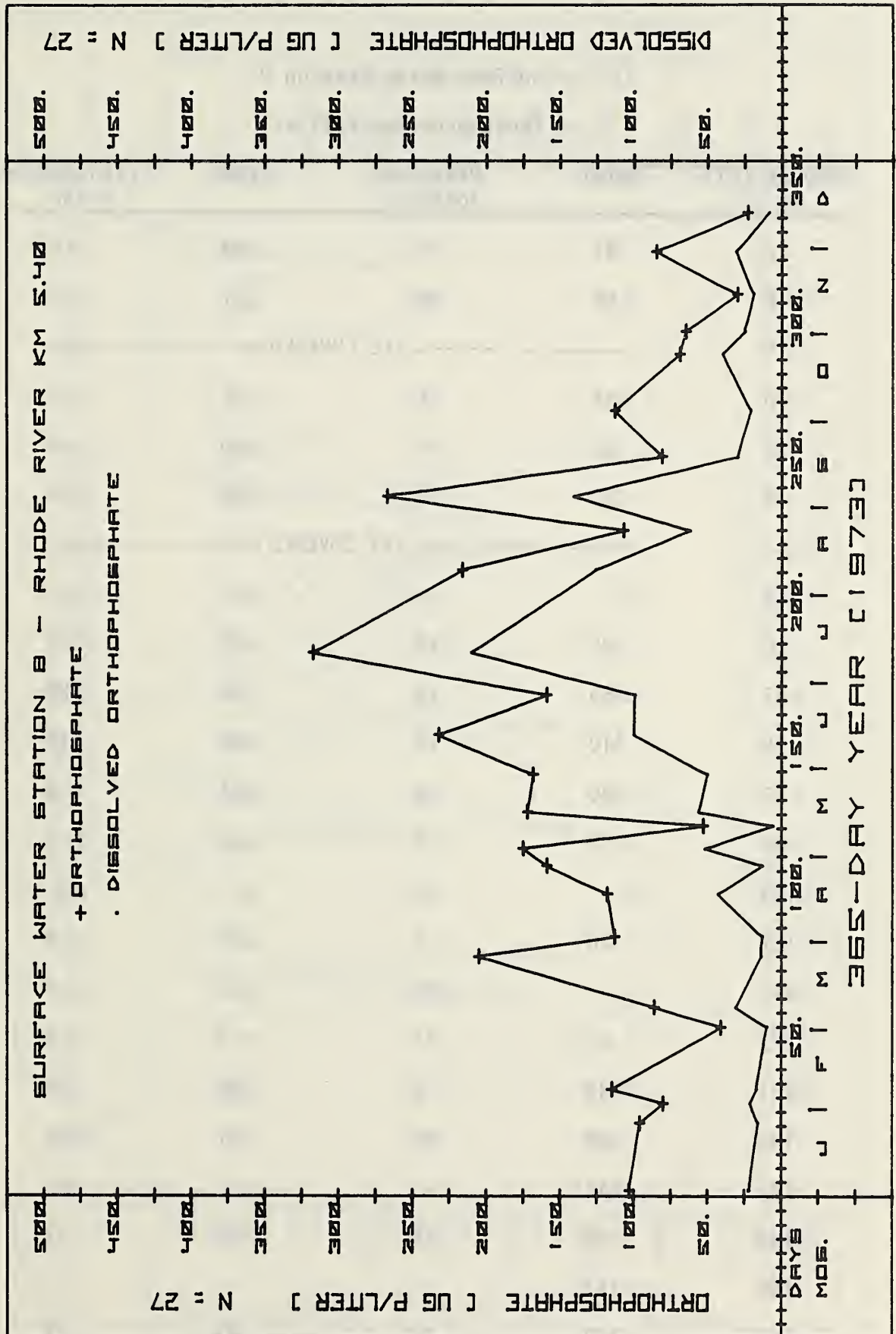
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	130	18	103	22
8	-----ICE COVERED-----			
19	" "			
26	74	25	96	16
33	131	25	80	21
38	80	16	115	17
47	----- ICE COVERED -----			
52	" "			
60	51	12	41	10
67	90	16	86	31
78	-	-	-	-
85	346	20	205	14
92	203	10	113	13
103	-	-	-	-
107	111	43	118	43
117	127	180	159	13
123	151	50	175	52
131	213	56	53	6
136	268	91	172	56
144	-	-	-	-
149	102	38	168	50
159	-	-	-	-
163	265	67	232	100

Surface Station 8 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	-	-	-	-
177	67	105	159	99
184	-	-	-	-
192	270	213	317	210
199	-	-	-	-
215	-	-	-	-
221	469	138	216	126
235	312	98	107	62
247	355	148	267	141
261	79	17	81	30
271	-	-	-	-
277	189	28	113	21
297	100	38	69	40
305	106	46	65	25
311	-	-	-	-
318	78	25	30	19
324	-	-	-	-
333	247	22	85	31
341	-	-	-	-
347	88	13	23	9
	N=27	N=27	N=27	N=27





Surface Water Station 9

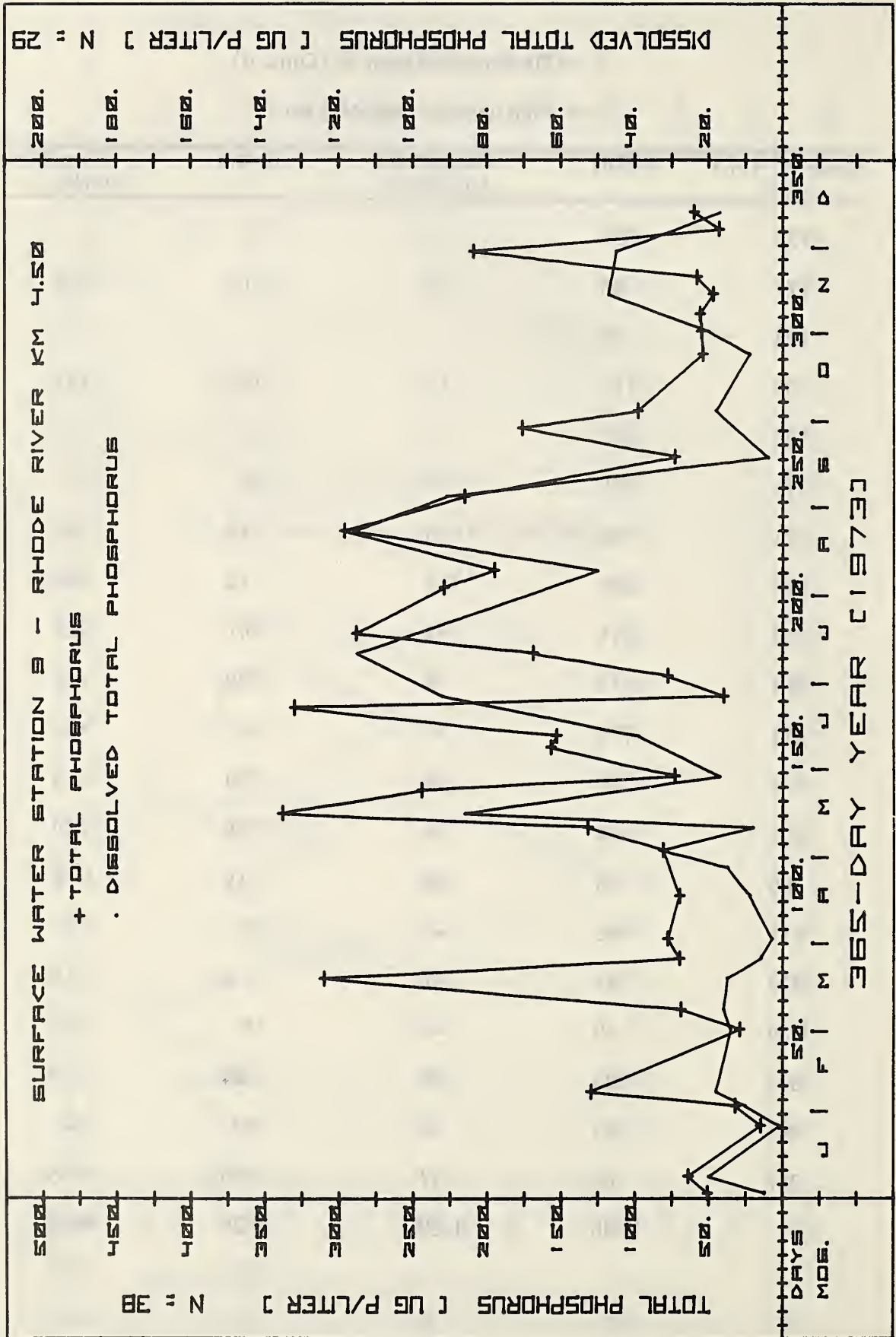
Phosphorus (ug P/liter)

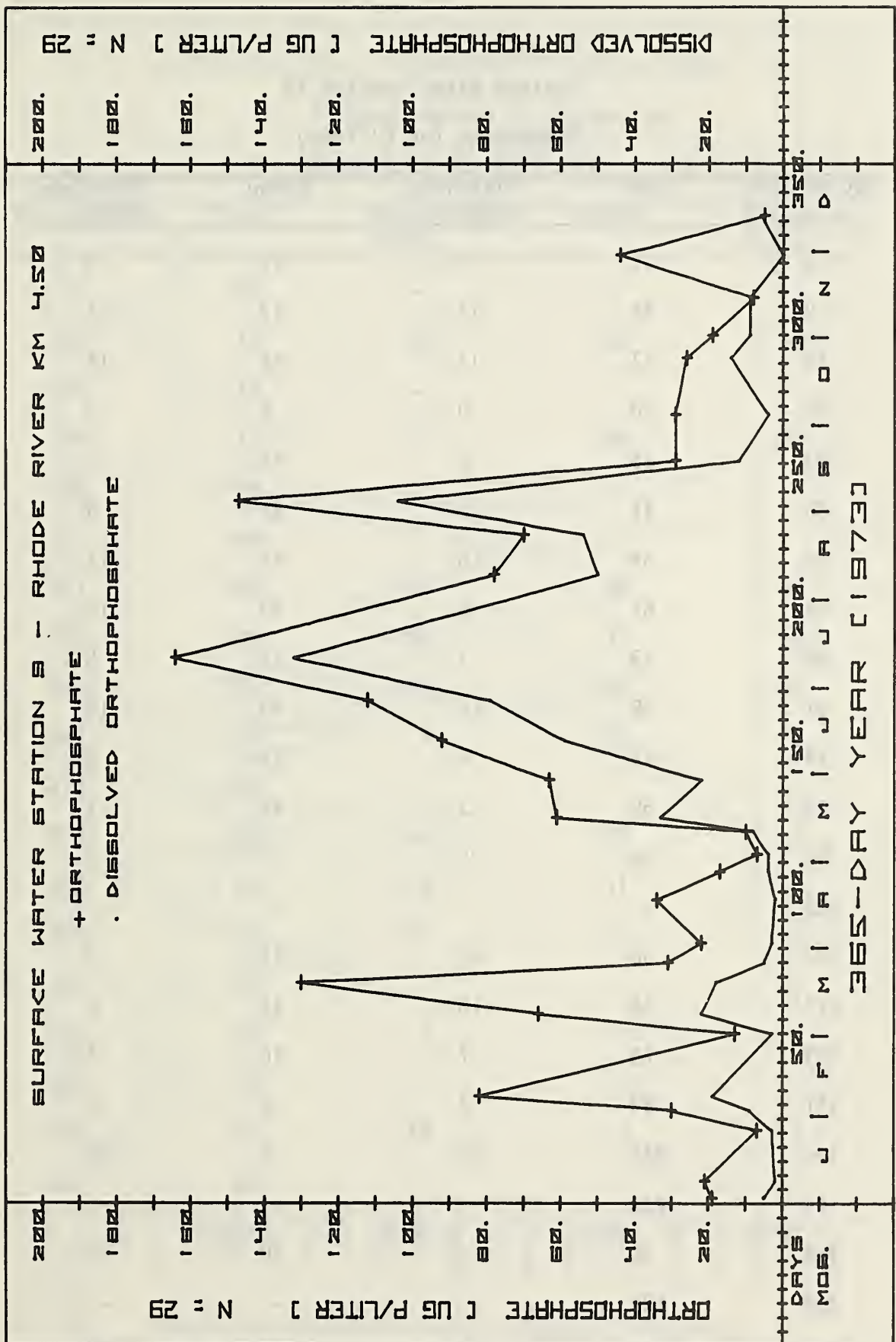
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	51	5	19	5
8	64	20	21	2
19	----- ICE COVERED -----			
26	15	1	7	3
33	32	10	30	9
38	130	18	82	19
47	----- ICE COVERED -----			
52		" "		
60	29	14	13	3
67	69	16	66	22
78	310	15	130	18
85	70	6	31	5
92	78	3	22	3
103	-	-	-	-
107	70	9	34	2
117	-	15	17	4
123	81	33	7	4
131	132	8	10	8
136	338	86	61	33
144	244	-	-	-
149	73	17	63	22
159	157	-	-	-
163	153	39	92	59

Surface Station 9 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	330	-	-	-
177	40	92	112	79
184	78	-	-	-
192	169	115	164	132
199	288	-	-	-
215	229	-	-	-
221	195	50	78	50
235	296	116	70	54
247	215	91	147	104
261	73	4	29	12
271	176	-	-	-
277	98	18	29	4
297	54	9	26	14
305	55	20	19	9
311	56	-	-	-
318	47	47	8	9
324	58	-	-	-
333	209	45	44	0
341	43	-	-	-
347	60	17	5	6
	N=38	N=29	N=29	N=29





Surface Water Station 10

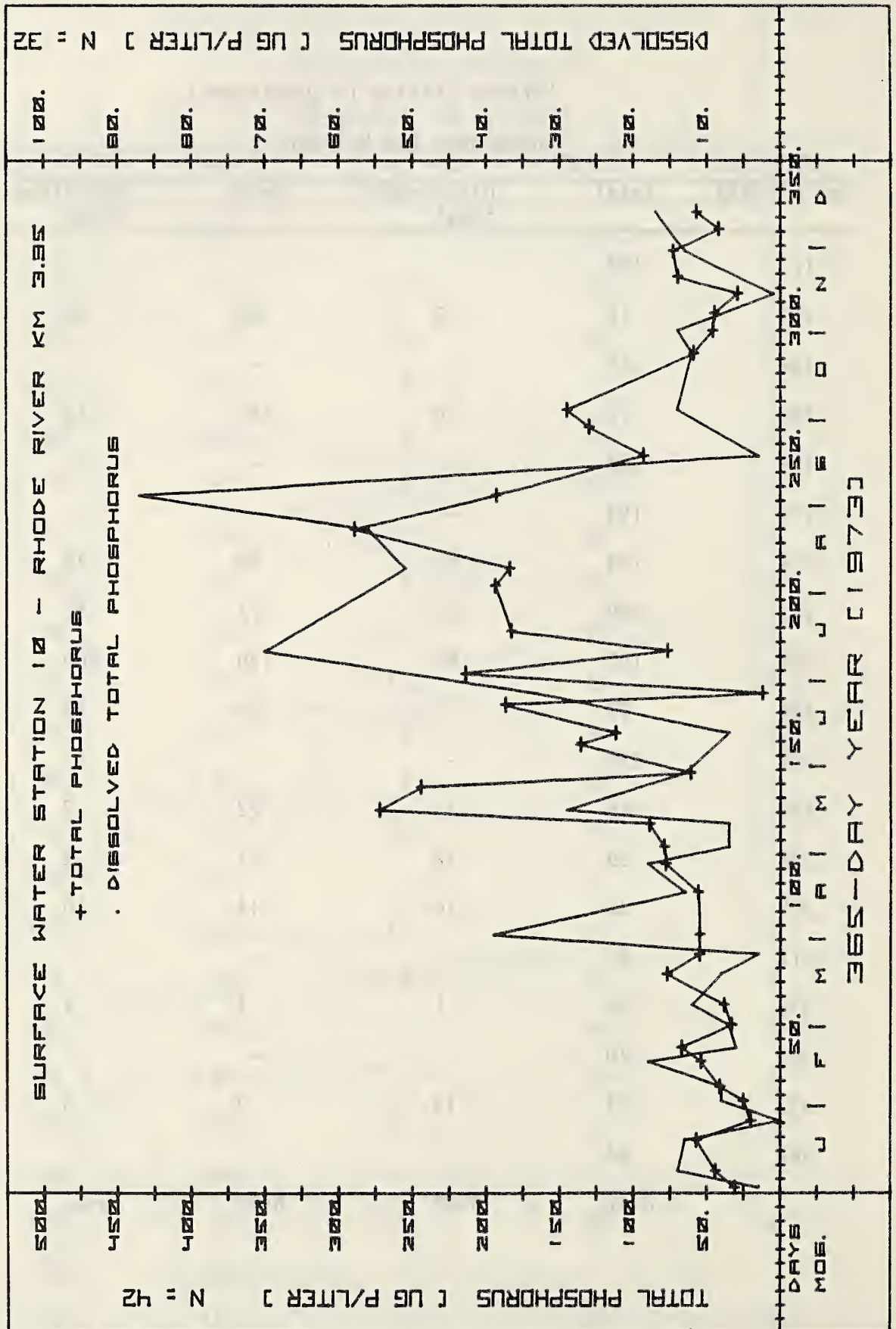
Phosphorus (ug P/liter)

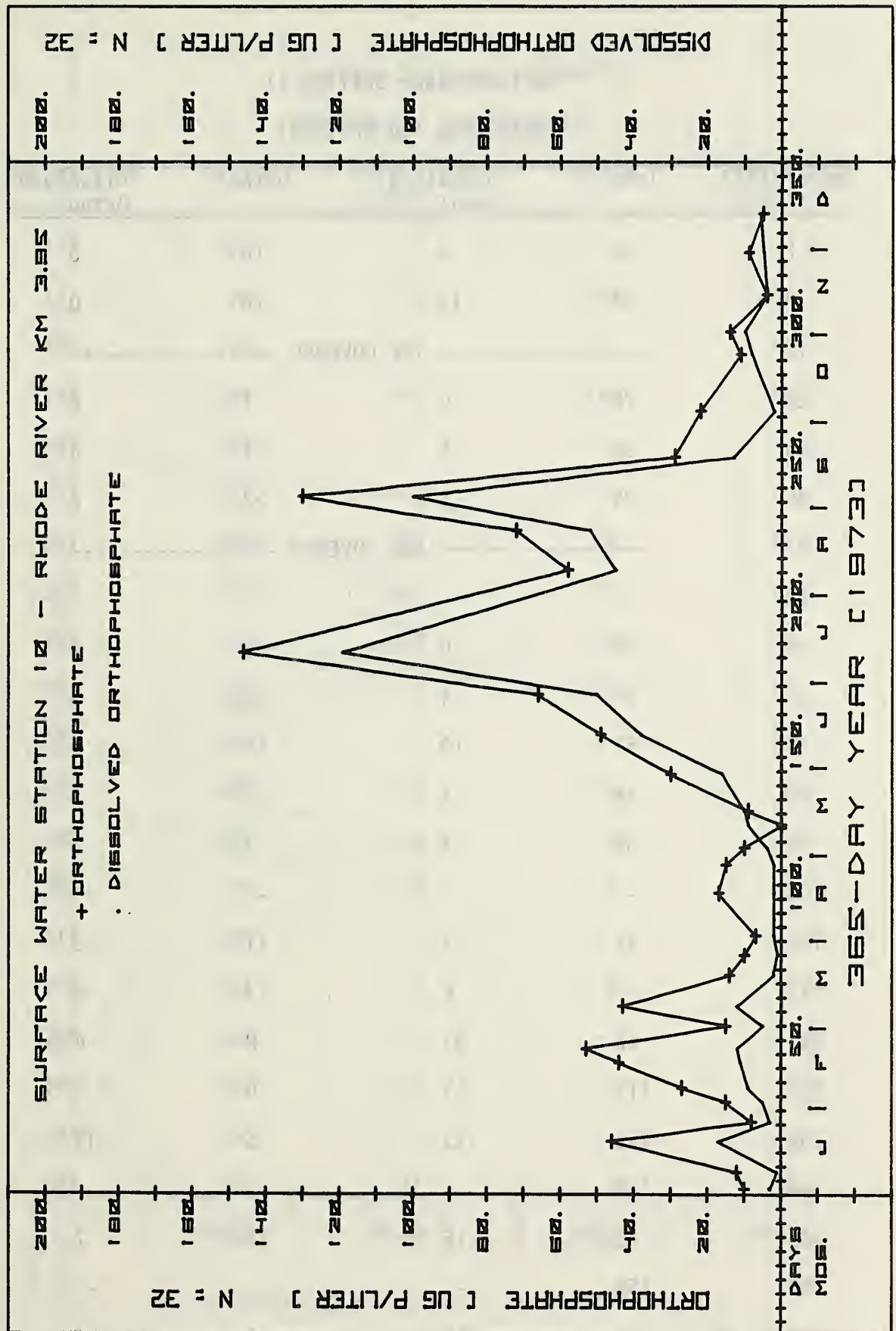
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	31	3	10	3
8	44	14	12	1
19	57	13	46	17
26	20	0	8	3
33	25	8	15	5
38	41	8	27	9
47	54	18	44	11
52	67	6	53	12
60	33	7	15	5
67	38	12	43	12
78	77	8	14	2
85	55	3	10	1
92	55	39	7	2
103	-	-	-	-
107	56	13	17	2
117	78	18	15	2
123	79	7	10	4
131	89	7	0	9
136	272	29	9	10
144	244	-	-	-
149	61	13	30	16
159	136	-	-	-
163	112	7	49	38

Surface Station 10 (Continued)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	187	-	-	-
177	12	33	66	50
184	214	-	-	-
192	77	70	146	119
199	183	-	-	-
215	194	-	-	-
221	184	51	58	45
235	289	56	72	52
247	193	87	130	100
261	93	3	29	13
271	130	-	-	-
277	145	14	22	2
297	59	12	11	8
305	46	14	14	10
311	45	-	-	-
318	29	1	4	4
324	70	-	-	-
333	73	13	9	5
347	42	-	-	-
	N=42	N=32	N=32	N=32





Surface Water Station 11

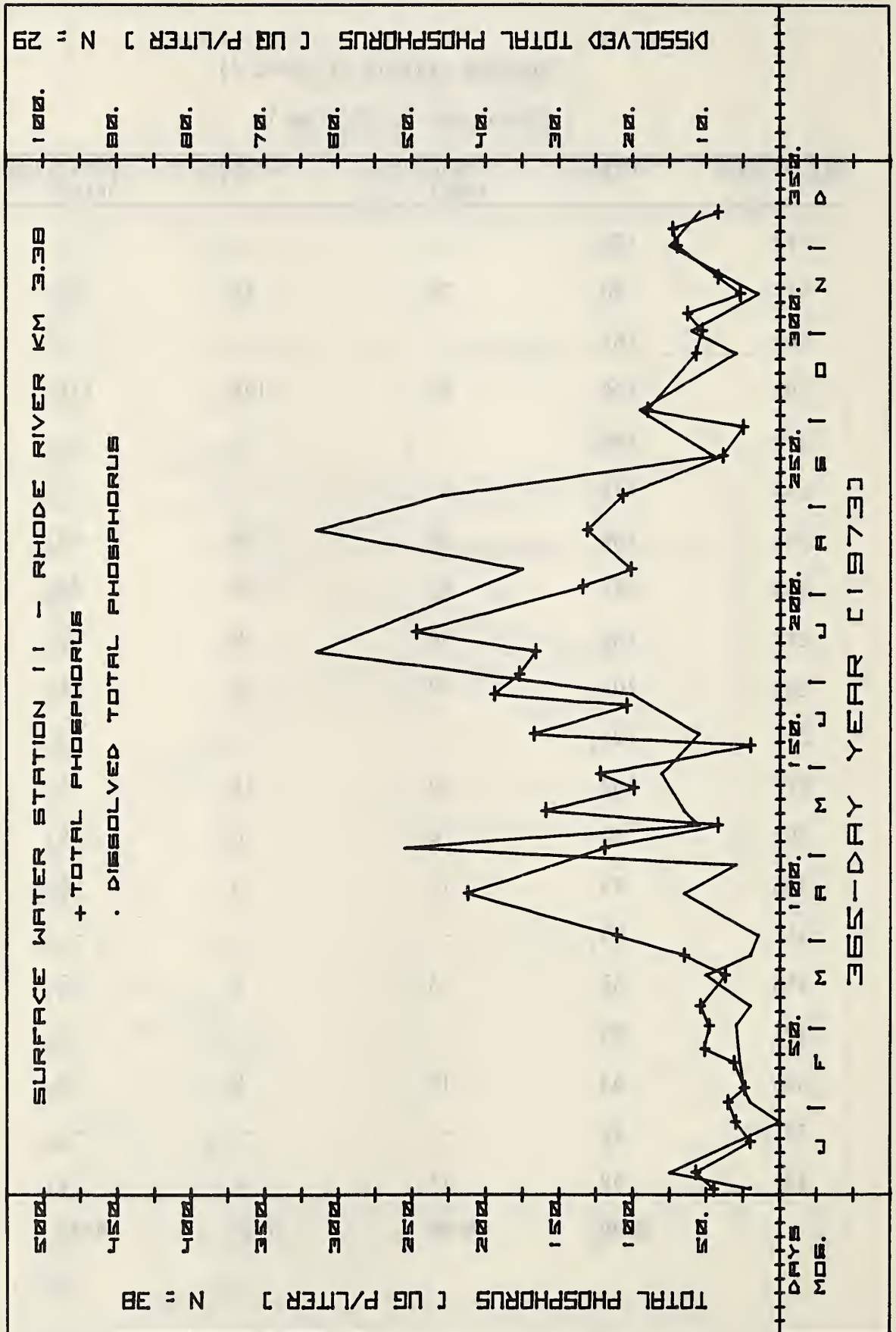
Phosphorus (ug P/liter)

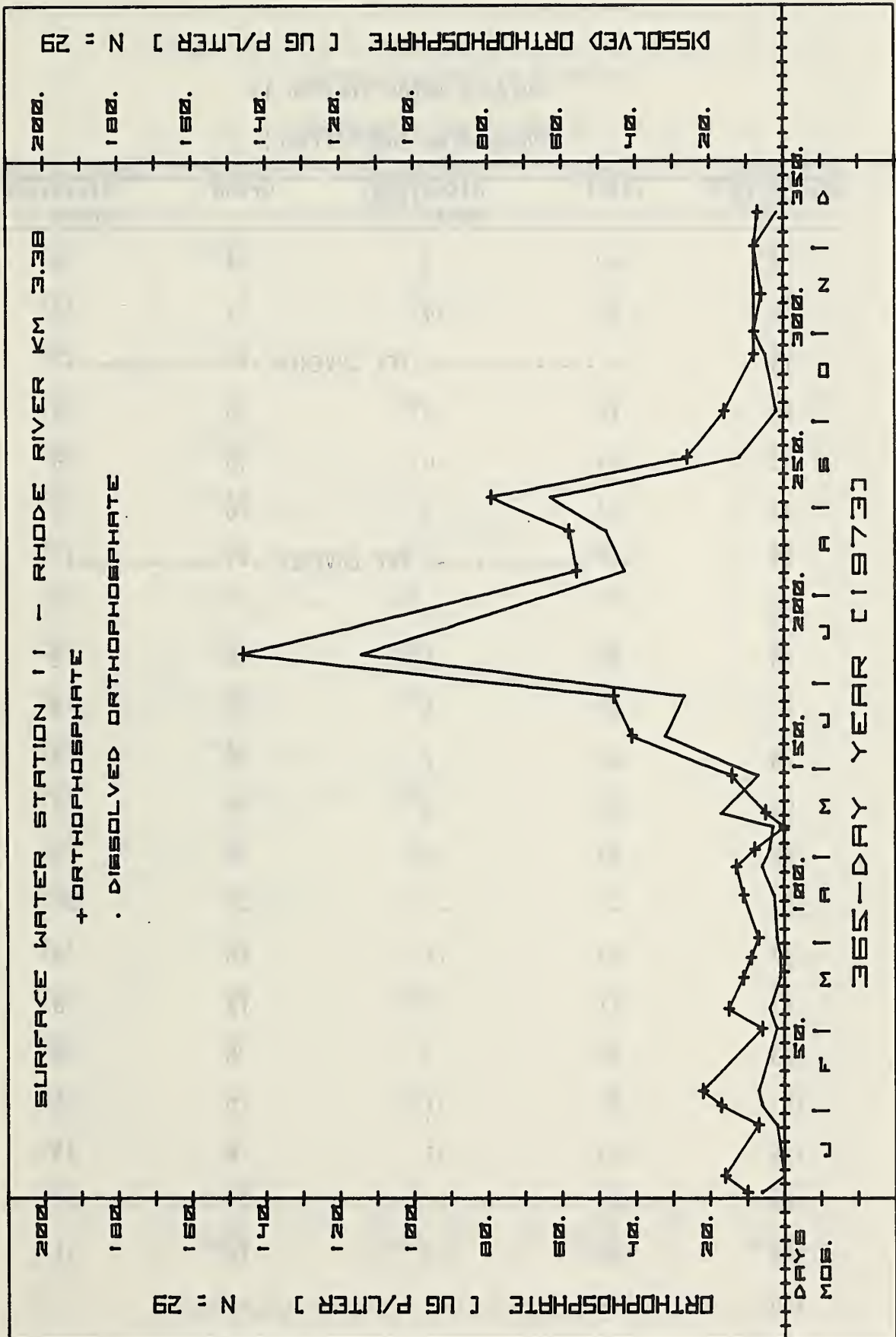
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	45	4	10	6
8	57	15	16	0
19	----- ICE COVERED -----			
26	20	0	7	2
33	30	4	17	6
38	35	5	22	7
47	----- ICE COVERED -----			
52	" "			
60	24	6	6	2
67	31	4	15	4
78	51	10	11	1
85	48	4	9	1
92	54	3	7	2
103	-	-	-	-
107	37	13	11	3
117	-	6	13	6
123	65	51	8	4
131	111	11	0	3
136	212	13	5	17
144	119	-	-	-
149	42	16	14	7
159	159	-	-	-
163	99	11	41	32

Surface Station 11 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	122	-	-	-
177	20	20	46	27
184	167	-	-	-
192	104	63	146	114
199	194	-	-	-
215	177	-	-	-
221	166	35	56	43
235	247	63	58	48
247	134	46	79	63
261	101	9	26	12
271	131	-	-	-
277	107	19	16	2
297	39	6	8	5
305	25	12	8	8
311	90	-	-	-
318	57	3	6	8
324	53	-	-	-
333	63	15	8	8
341	27	-	-	-
347	42	11	7	2
	N=38	N=29	N=29	N=29





Surface Water Station 12

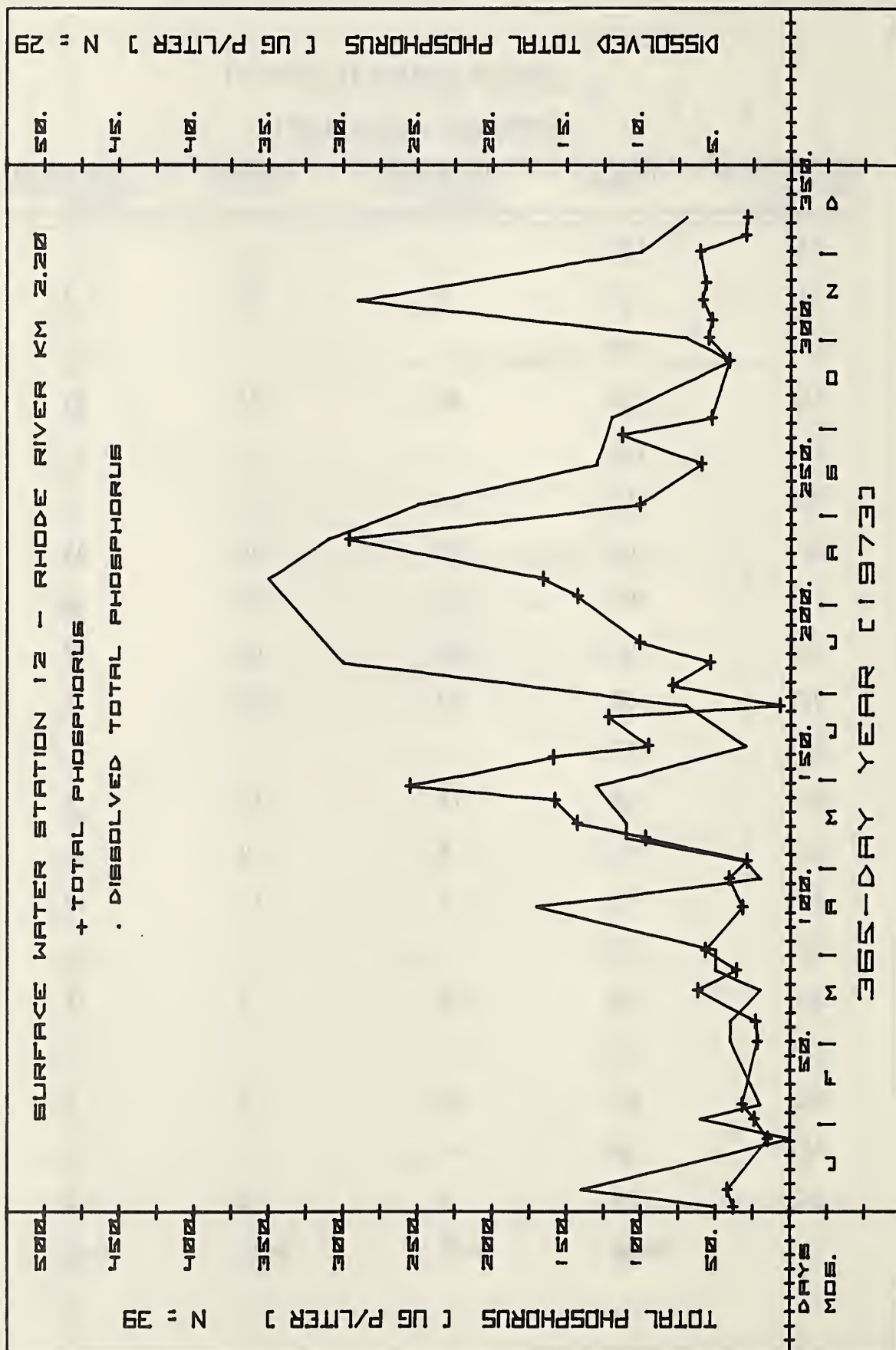
Phosphorus (ug P/liter)

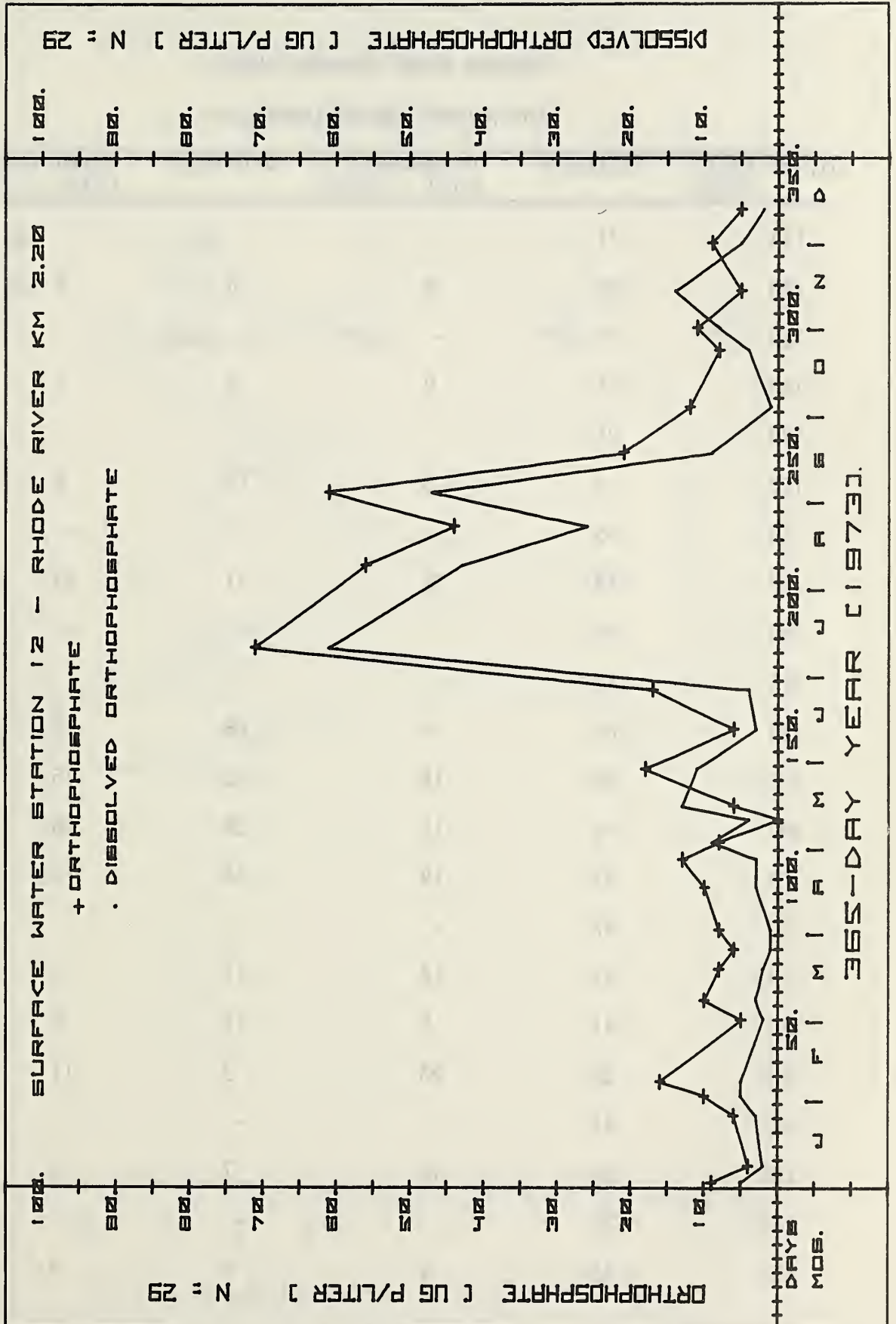
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	38	5	9	5
8	42	14	4	2
19	----- ICE COVERED -----			
26	15	0	6	3
33	24	6	10	5
38	32	2	16	5
47	----- ICE COVERED -----			
52	" "			
60	22	4	5	2
67	23	4	10	3
78	62	2	8	2
85	36	5	6	1
92	57	5	8	1
103	-	-	-	-
107	32	17	10	3
117	41	2	13	3
123	29	3	8	9
131	97	11	0	4
136	143	11	6	13
144	158	-	-	-
149	255	13	18	11
159	159	-	-	-
163	95	3	6	3

Surface Station 12 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	122	-	-	-
177	7	7	17	4
184	79	-	-	-
192	54	30	71	61
199	101	-	-	-
215	143	-	-	-
221	166	35	56	43
235	296	31	44	26
247	101	25	61	47
261	60	13	21	9
271	113	-	-	-
277	53	12	12	1
297	41	4	8	4
305	55	7	11	8
311	53	-	-	-
318	59	29	5	14
324	57	-	-	-
333	61	10	9	5
341	30	-	-	-
347	29	7	5	2
	N=39	N=29	N=29	N=29





Surface Water Station 12.5

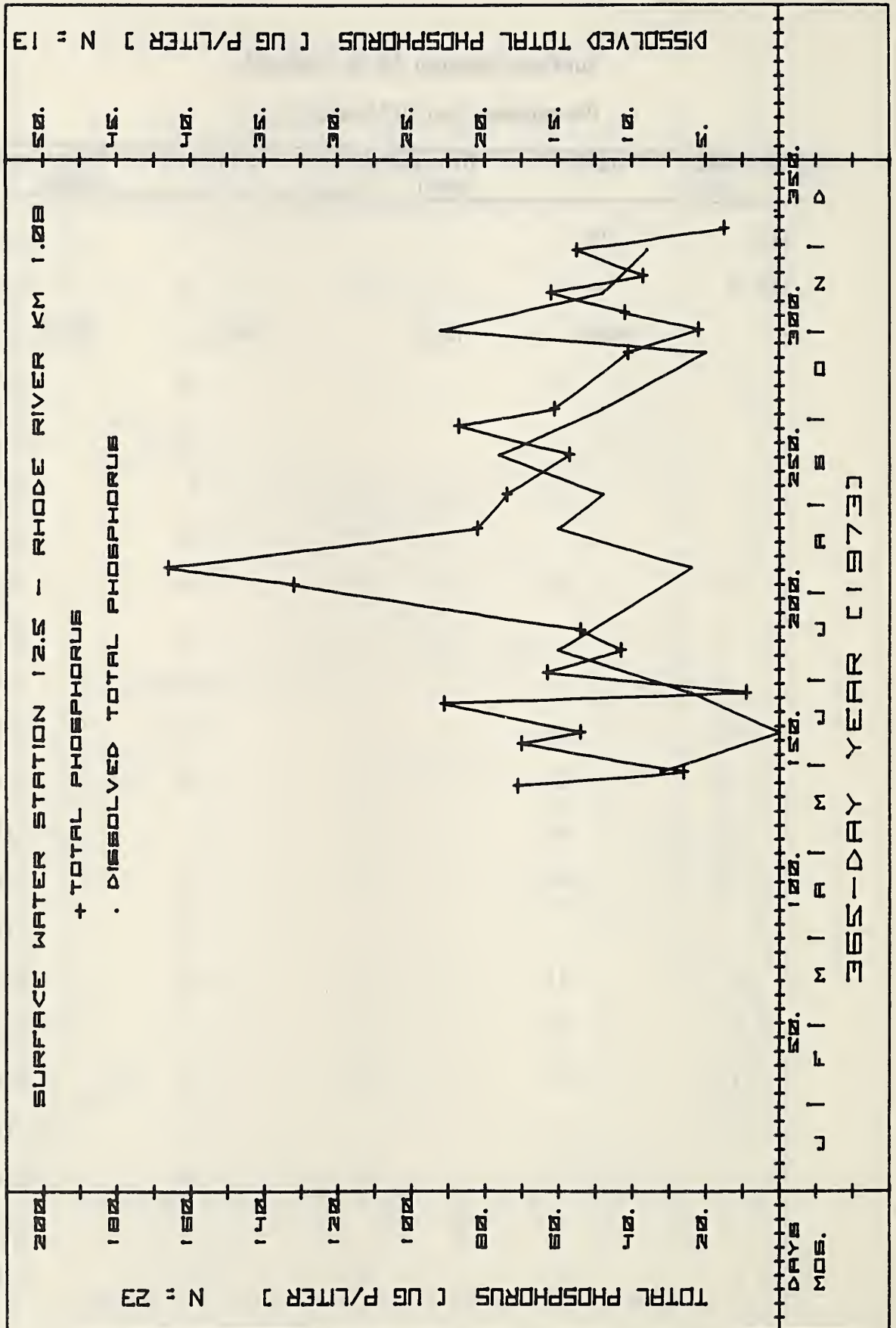
Phosphorus (ug P/liter)

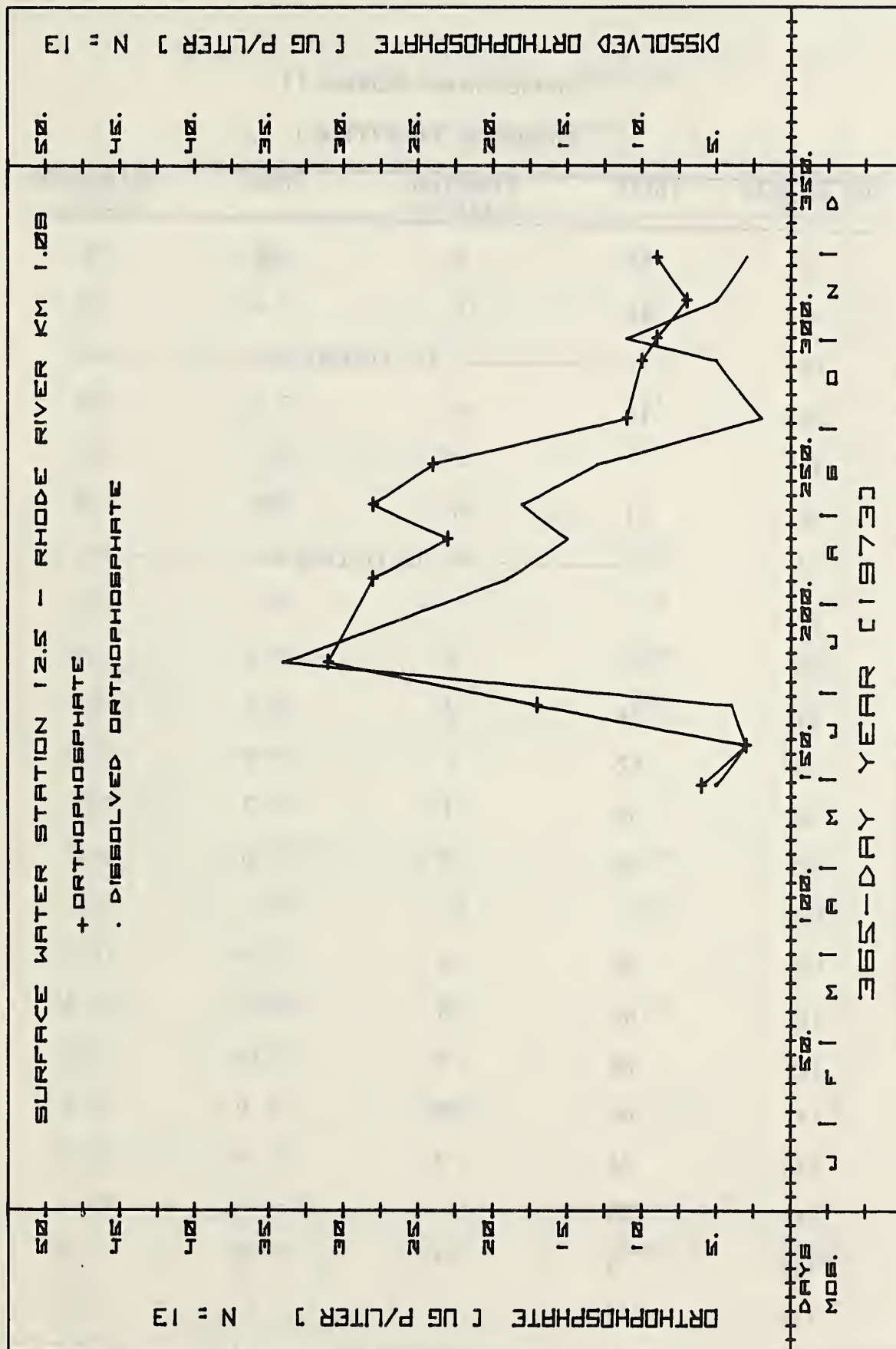
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
144	71	-	-	-
149	26	8	6	5
159	70	-	-	-
163	54	0	3	3
173	91	-	-	-
177	9	6	17	4
184	63	-	-	-
192	43	15	31	34
199	54	-	-	-
215	132	-	-	-
221	166	6	28	19
235	82	15	23	15
247	74	12	28	18
261	57	19	24	13
271	87	-	-	-
277	61	12	11	2
297	41	5	10	5
305	22	23	9	11
311	42	-	-	-
318	62	12	7	5
324	37	-	-	-
333	55	9	9	3

Surface Station 12.5 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
341	15	-	-	-
347	-	-	-	-
	N=23	N=13	N=13	N=13





Surface Water Station 13

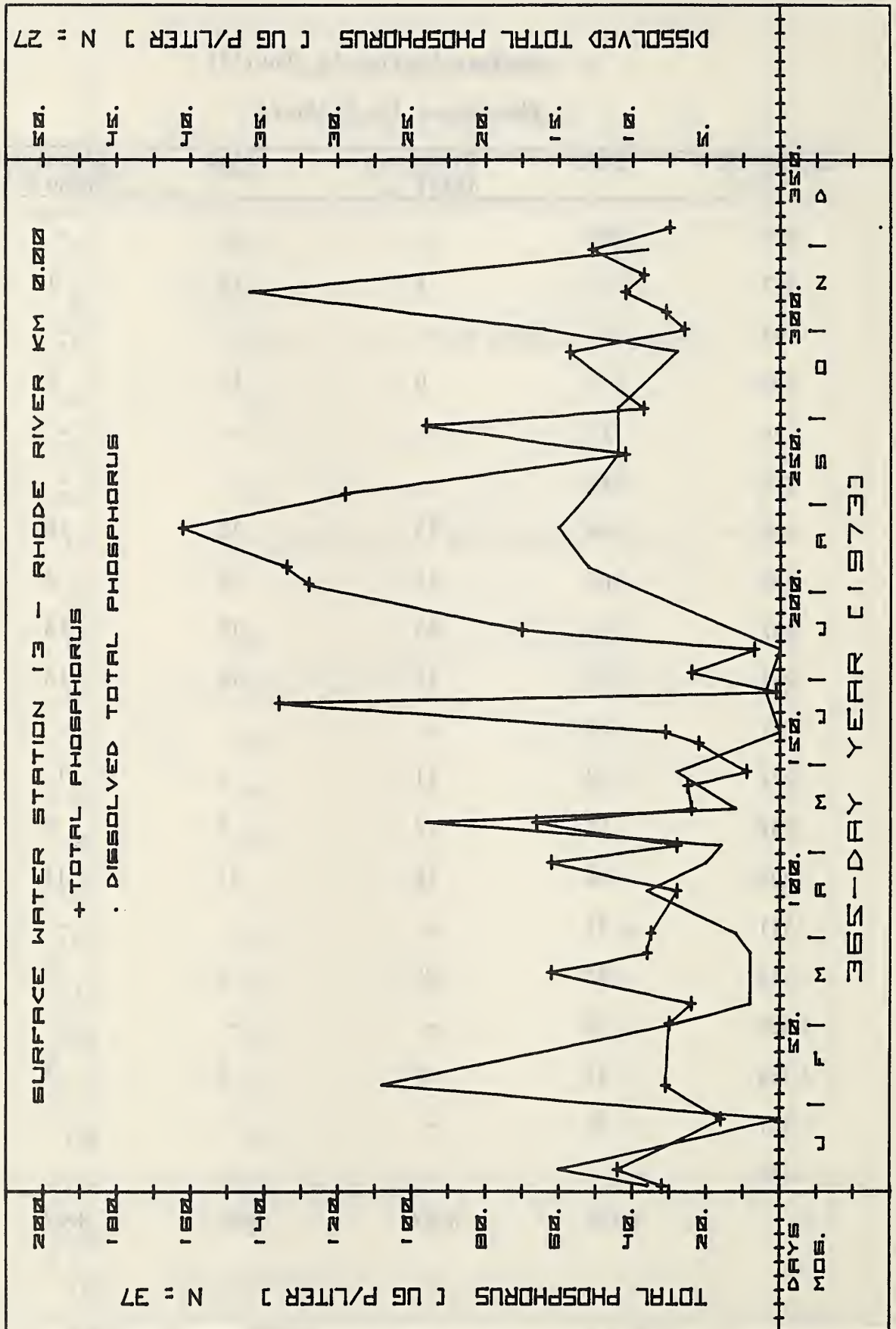
Phosphorus (ug P/liter)

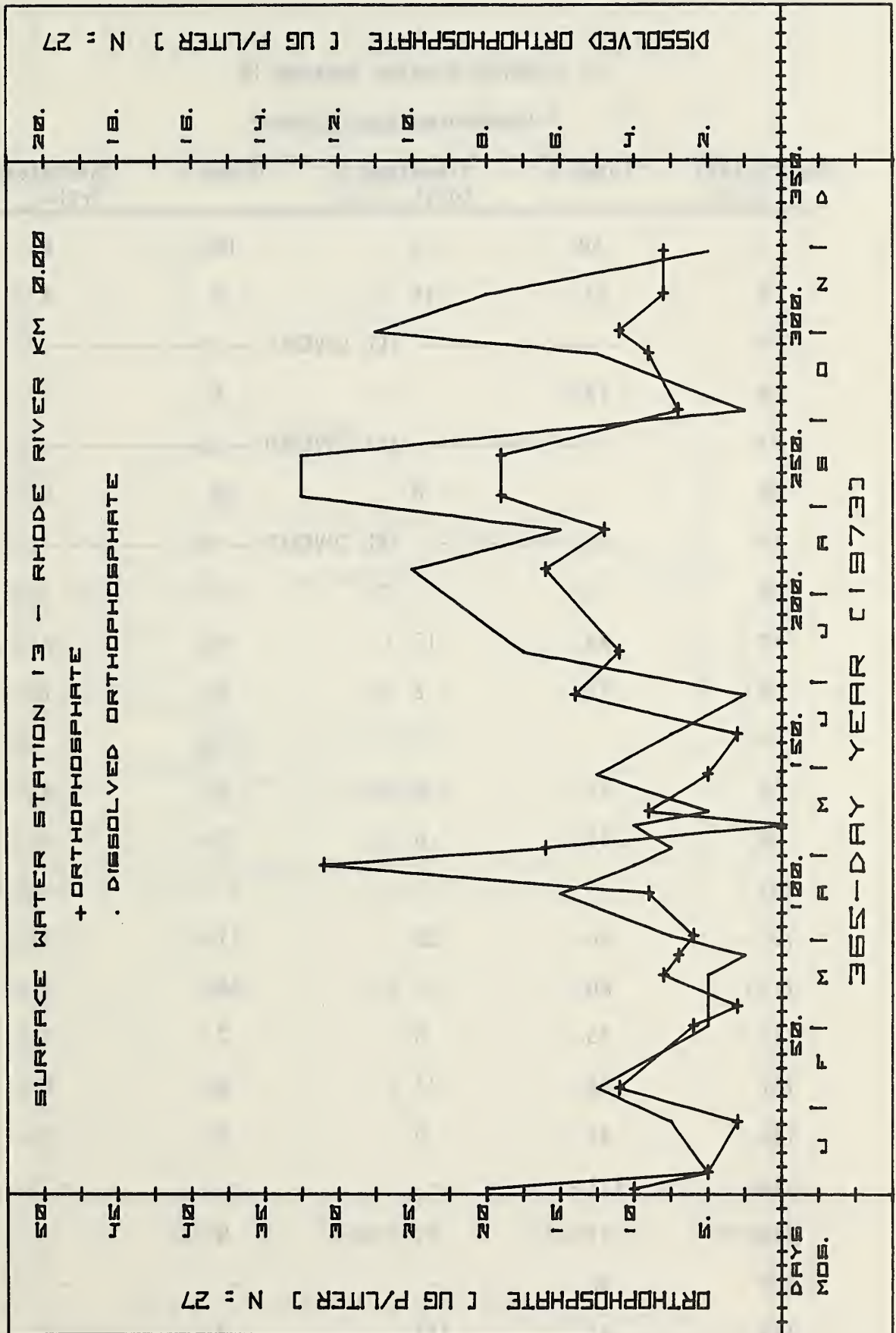
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	32	9	10	8
8	44	15	5	2
19	----- ICE COVERED -----			
26	16	0	3	3
33	-	-	-	-
38	31	27	11	5
47	----- ICE COVERED -----			
52		" "		
60	30	7	6	2
67	24	2	3	2
78	62	2	8	2
85	36	2	7	1
92	35	3	6	3
103	-	-	-	-
107	28	9	9	6
117	62	5	31	4
123	28	4	16	3
131	66	24	0	4
136	24	3	9	2
144	25	-	-	-
149	9	7	5	5
159	22	-	-	-
163	31	0	3	3

Surface Station 13 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	136	-	-	-
177	1	1	14	1
184	24	-	-	-
192	7	0	11	7
199	70	-	-	-
215	128	-	-	-
221	134	13	16	10
235	162	15	12	6
247	118	13	19	13
261	42	11	19	13
271	96	-	-	-
277	37	11	7	1
297	57	7	9	5
305	26	16	11	11
311	31	-	-	-
318	42	36	8	8
324	37	-	-	-
333	51	9	8	2
341	31	-	-	-
347	-	-	-	-
	N=37	N=27	N=27	N=27





Surface Water Station 14

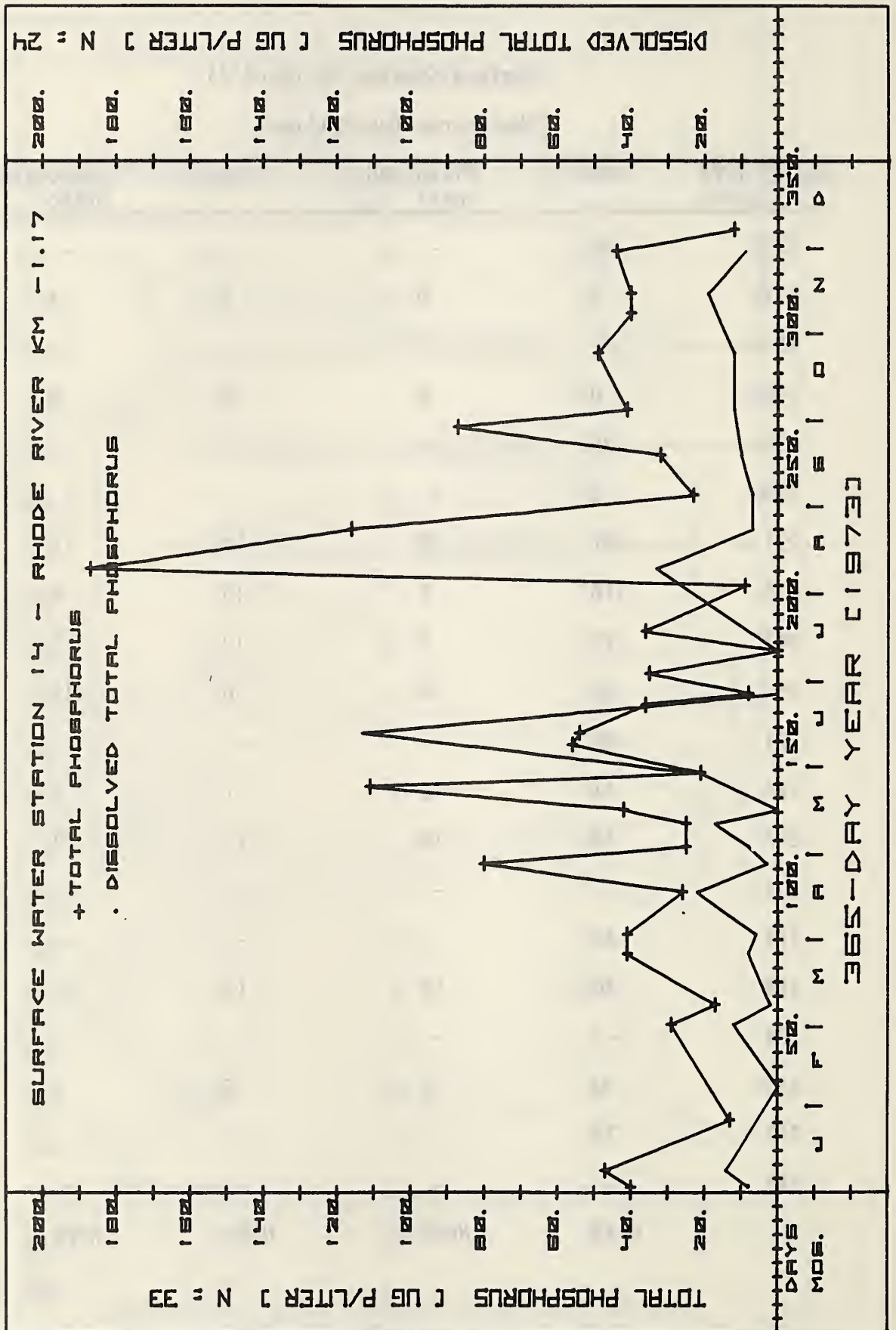
Phosphorus (ug P/liter)

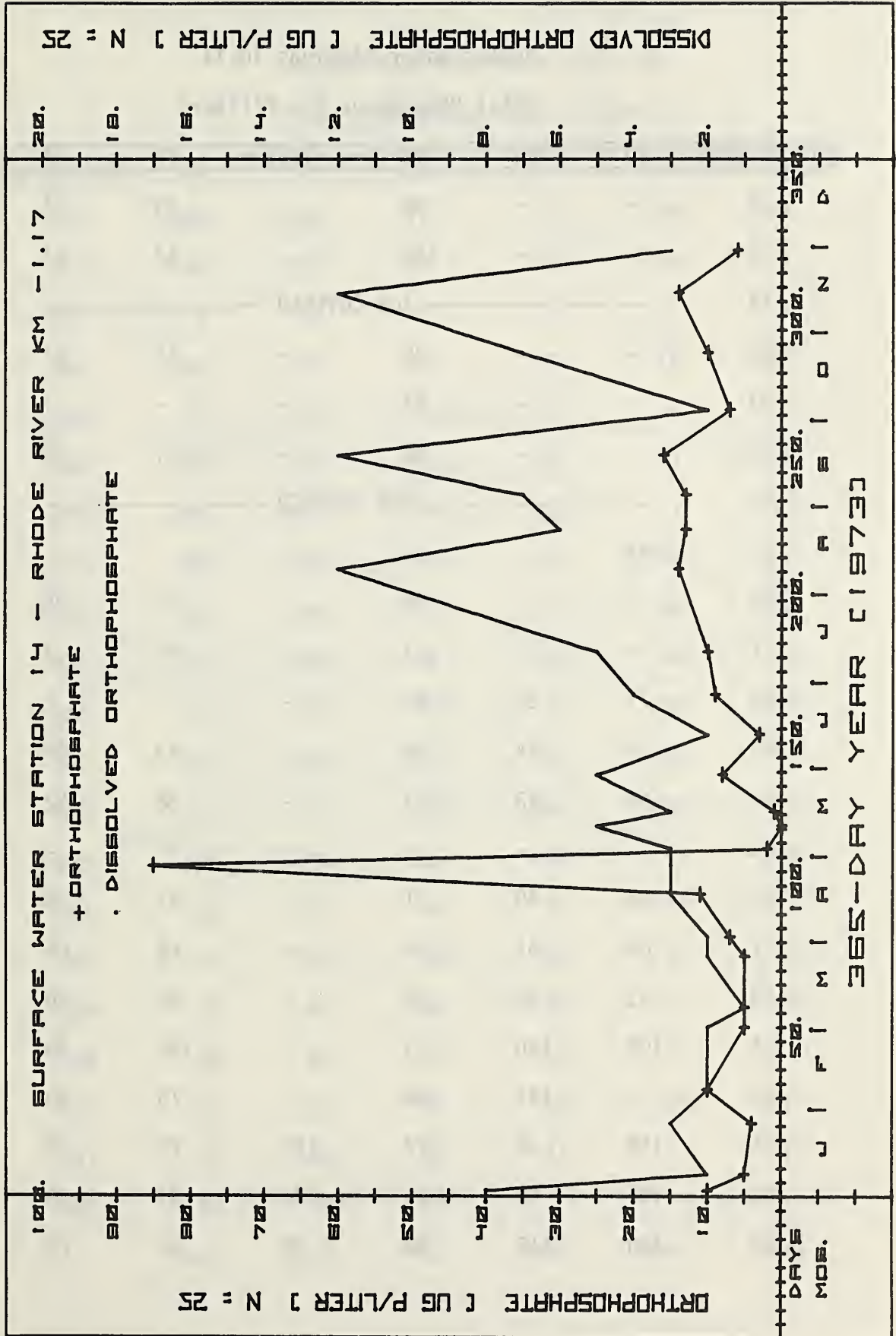
Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
2	40	8	10	8
8	47	14	5	2
19	-----	ICE COVERED	-----	-----
26	13	-	4	3
33	-----	ICE COVERED	-----	-----
38	-	0	10	2
47	-----	ICE COVERED	-----	-----
52		" "		
60	29	12	5	2
67	17	2	5	1
78	-	-	-	-
85	41	8	5	2
92	41	6	7	2
103	-	-	-	-
107	26	22	11	3
117	80	3	85	3
123	25	8	2	3
131	25	17	0	5
136	42	0	1	3
144	111	-	-	-
149	21	21	8	5
159	56	-	-	-
163	54	113	3	2

Surface Station 14 (Cont'd)

Phosphorus (ug P/liter)

Day of 1973	Total	Dissolved total	Ortho	Dissolved Ortho
173	36	-	-	-
177	8	0	9	4
184	35	-	-	-
192	0	0	10	5
199	36	-	-	-
215	9	-	-	-
221	187	33	14	12
235	116	7	13	6
247	23	7	13	7
261	32	10	16	12
271	87	-	-	-
277	41	12	7	2
297	49	12	10	7
305	-	-	-	-
311	40	-	-	-
318	40	19	14	12
324	-	-	-	-
333	44	9	6	3
341	12	-	-	-
347	-	-	-	-
	N=33	N=24	N=25	N=25





Bottom Water Stations 10-14

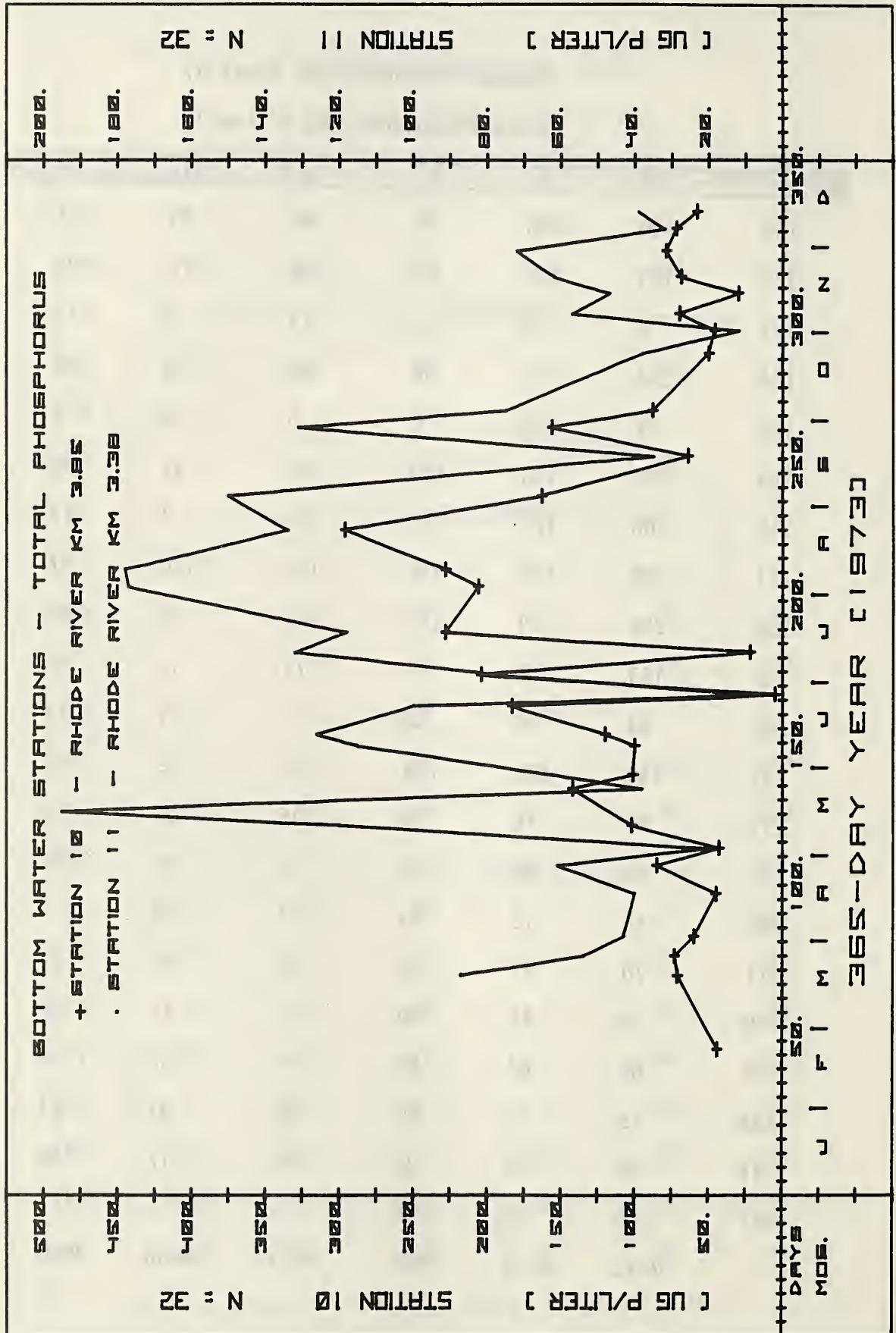
Total Phosphorus (ug P/liter)

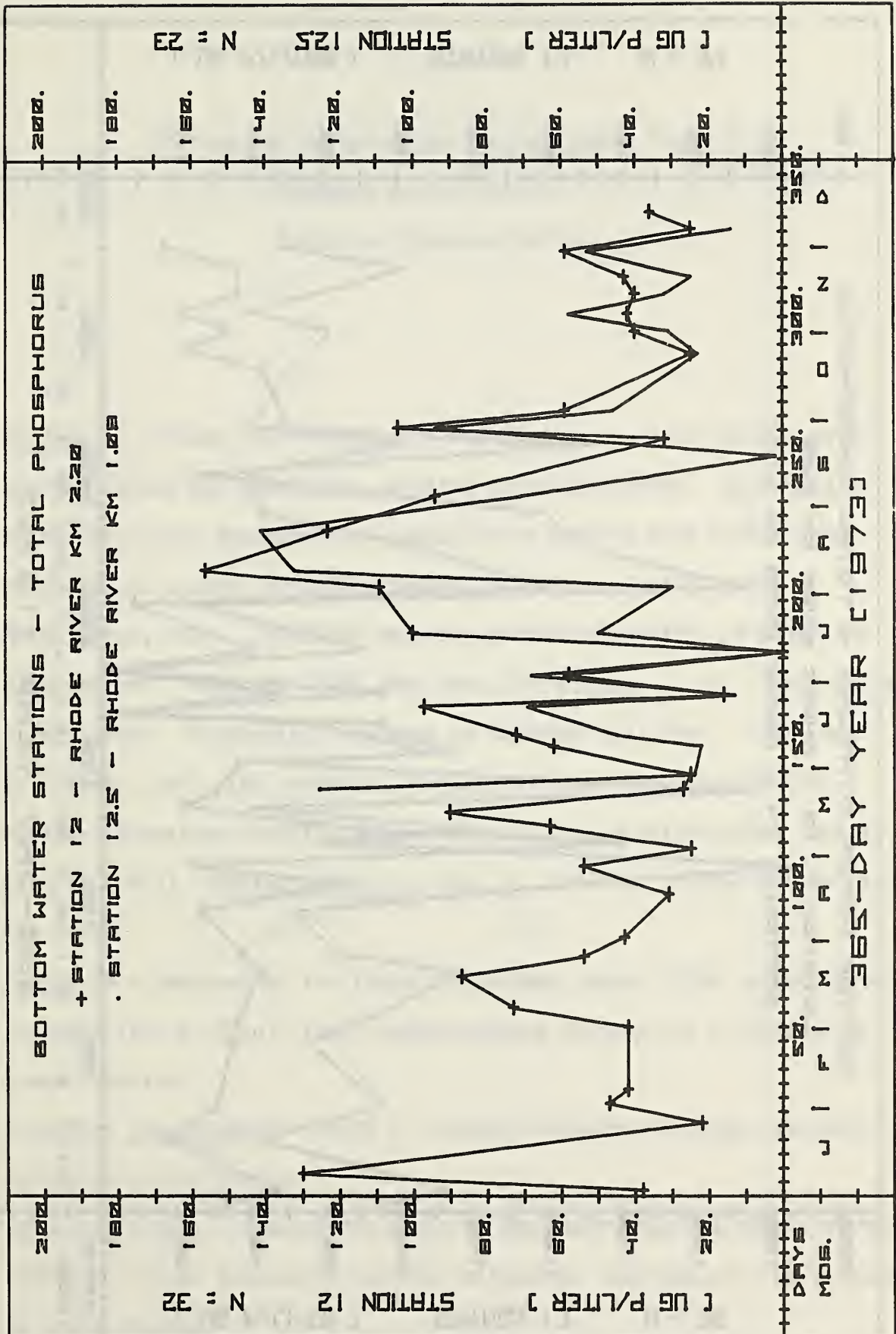
Day of 1973	10	11	12	12.5	13	14
2	-	-	38	-	33	37
8	-	-	130	-	47	47
19	----- ICE COVERED -----					
26	-	-	22	-	18	21
33	-	-	47	-	-	-
38	-	-	42	-	31	38
47	----- ICE COVERED -----					
52	44		"	"		
60	-	-	42	-	35	28
67	-	-	73	-	36	34
78	71	87	87	-	-	-
85	73	54	54	-	43	49
92	60	43	43	-	38	32
103	-	-	-	-	-	-
107	45	40	31	-	27	26
117	85	61	54	-	64	65
123	43	20	25	-	24	96
131	102	120	63	-	140	30
136	-	195	90	-	70	50
144	142	38	27	125	22	20
149	101	62	25	24	31	88
159	100	115	62	22	37	25

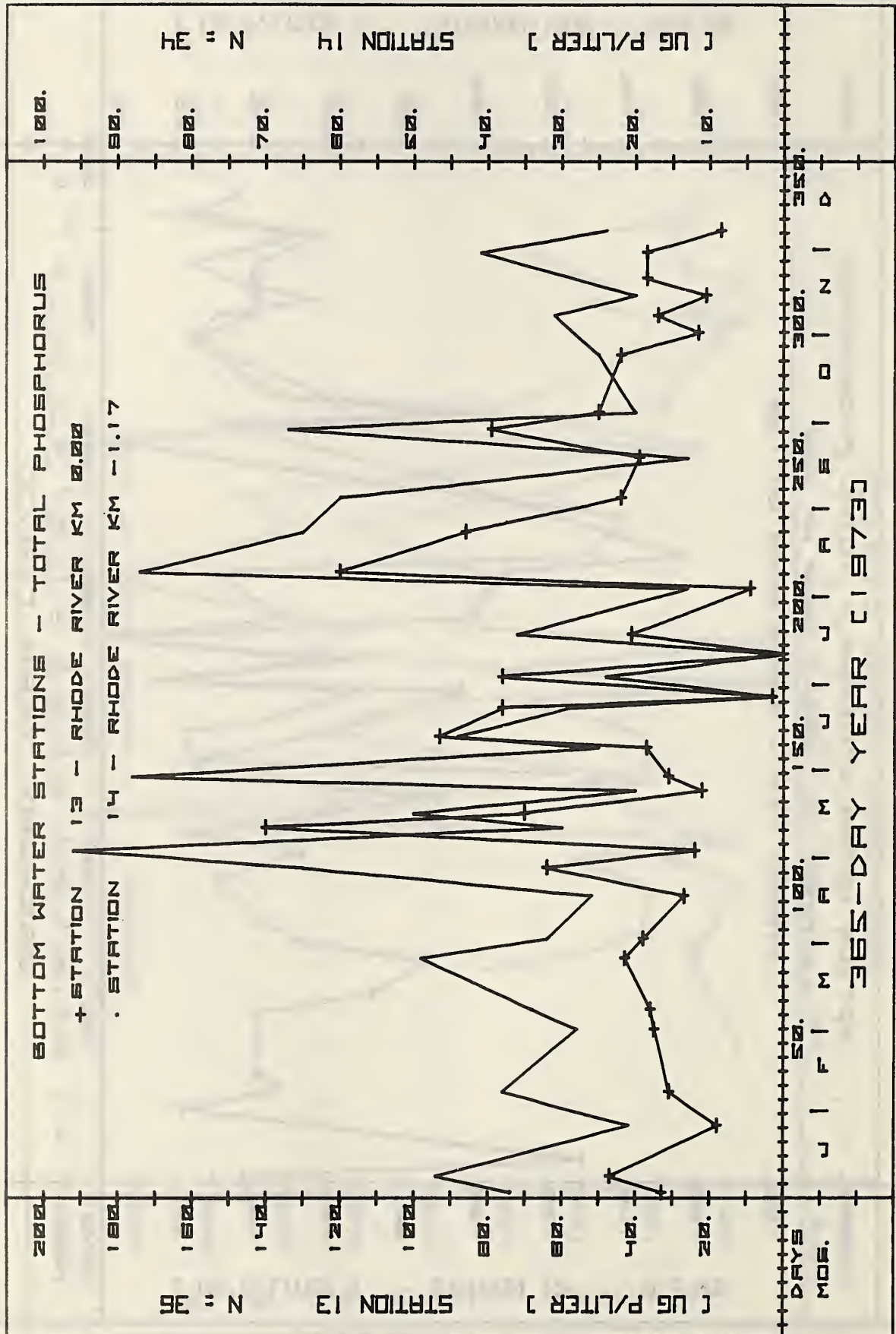
Bottom Stations 10-14 (Cont'd)

Total Phosphorus (ug P/liter)

Day of 1973	10	11	12	12.5	13	14
163	120	126	72	45	93	44
173	183	100	97	69	76	29
177	5	8	16	13	3	1
184	204	76	58	68	76	24
192	22	132	0	0	0	0
199	228	118	100	50	41	36
215	206	177	109	30	9	13
221	228	178	156	132	120	87
235	296	134	123	141	86	65
247	163	150	94	71	44	60
261	64	35	32	2	39	13
271	156	131	104	94	79	67
277	88	75	59	46	50	20
297	50	38	25	23	44	25
305	46	12	40	31	23	-
311	70	57	42	58	34	31
318	30	47	40	32	21	20
324	69	62	43	25	37	-
333	79	72	59	53	37	41
341	72	32	25	14	17	24
347	58	39	36	-	-	-
	N=32	N=32	N=39	N=23	N=36	N=34







Surface and Bottom Water Stations (maps 2 and 3)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Nitrogen - Nitrate plus nitrite was measured by reduction on a cadmium amalgam column and subsequent coupling to sulfanilamide. Ammonia plus amino acids were determined by oxidation to nitrite with sodium hypochlorite and coupled to sulfanilamide. (American Public Health Association, 1971. "Standard Methods for the Examination of Water and Waste Water". 13th ed. APHA, New York; Strickland, J. P. H. and Parsons, T. R., 1968. "A Practical Handbook of Seawater Analysis". Fish. Res. Bd. Canada, Bull. 167. Ottawa). Organic Nitrogen was determined by Kjeldahl digestion, distillation of ammonia, and Nesslerization (Martin, Dean F. (1972). Marine Chemistry, Vol. 1: 174-179. Marcel Dekker, Inc. New York).

Turbidity - Measured in the field with a Hach, Model 2100A, turbidimeter operated from a 12 volt lead storage battery by means of a solid state power inverter.

Principal Investigator: David L. Correll, Radiation Biology Laboratory, Smithsonian Institution.

Research Funding: Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Sciences Program.

Rainfall

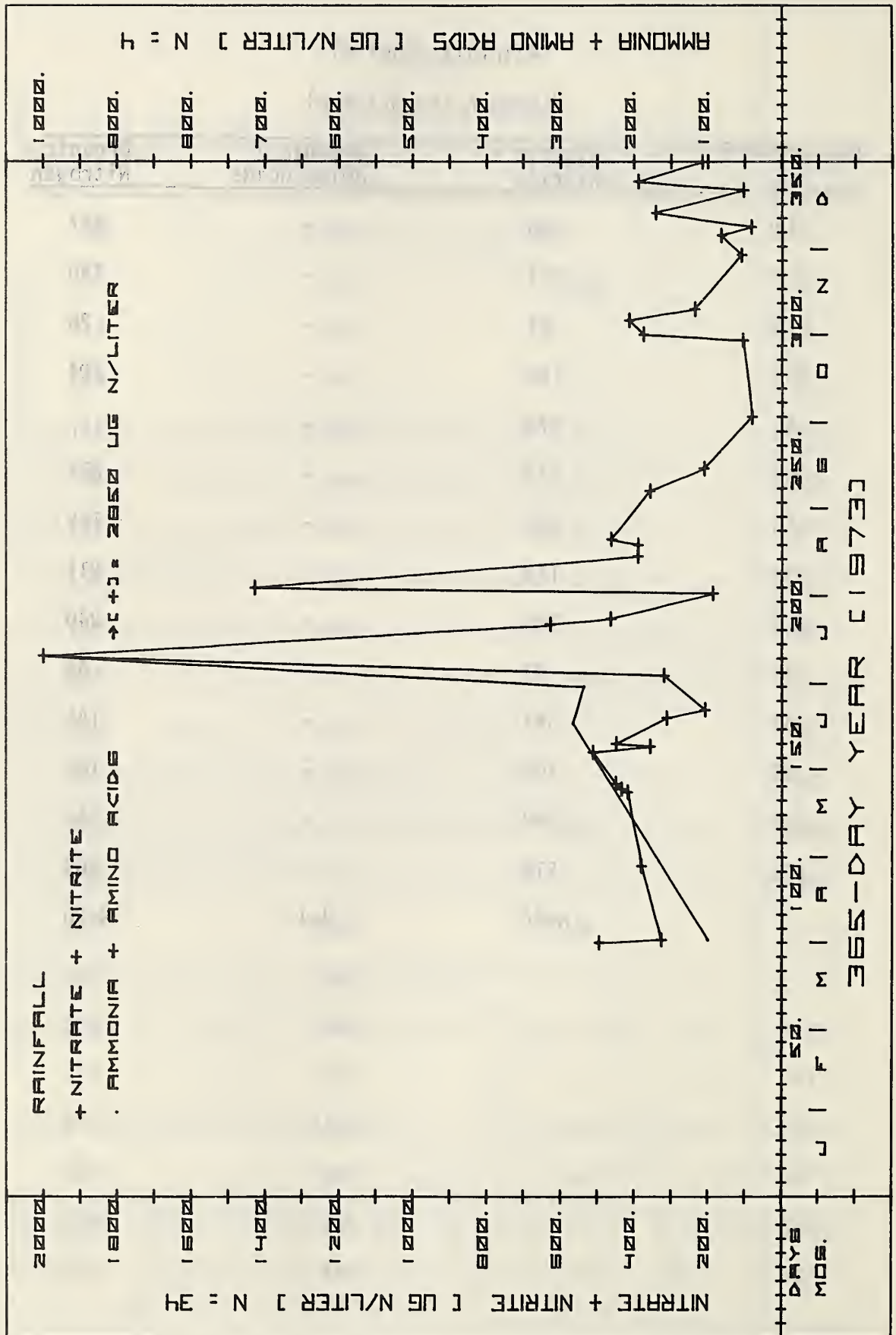
Nitrogen (ug N/liter)

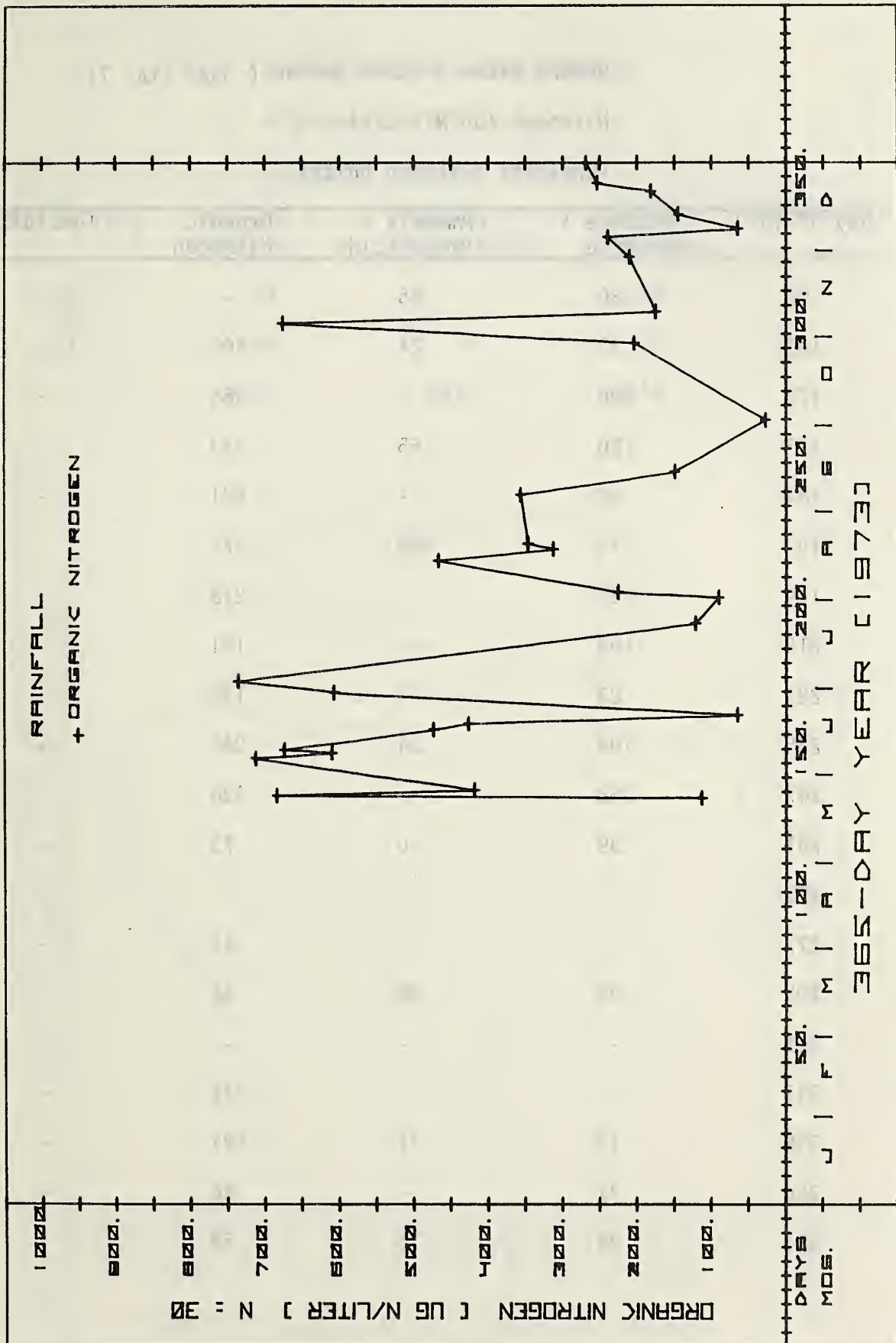
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen
90	496	-	-
91	326	100	-
117	381	-	-
143	418	-	113
144	434	-	683
146	450	-	418
157	512	-	711
159	357	-	609
160	449	-	673
167	-	283	473
169	311	-	426
172	208	-	65
180	-	268	606
184	319	-	735
191	2850	1000	-
202	628	-	-
204	464	-	122
213	187	-	91
215	1428	-	226
226	390	-	467
230	390	-	313
232	463	-	347

Rainfall (Cont'd)

Nitrogen (ug N/liter)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen
249	358	-	357
257	211	-	150
275	81	-	28
302	105	-	204
304	375	-	-
309	415	-	676
313	237	-	175
332	110	-	211
339	165	-	240
342	83	-	65
347	341	-	145
355	104	-	182
358	389	-	254
365	216	-	269
	N=34	N=4	N=30





Ground Water Station Spring (near sta. 7)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

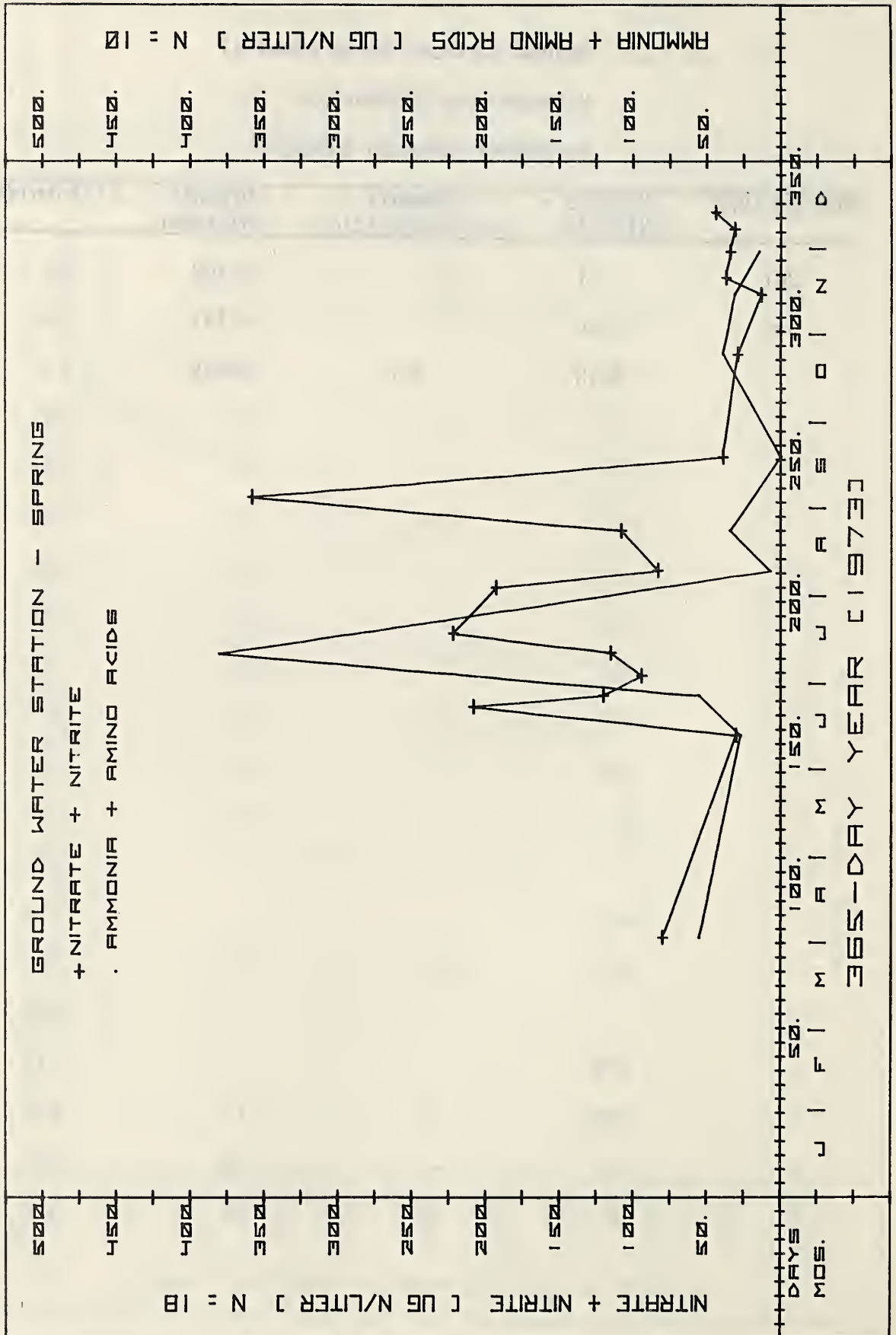
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
92	80	55	-	-
163	30	27	400	-
173	208	-	65	-
177	120	55	353	-
184	94	-	481	-
192	115	380	378	-
199	222	-	218	-
215	193	-	161	-
221	83	7	130	-
235	108	34	247	-
247	358	-	428	-
261	39	0	75	-
271	-	-	-	-
277	-	-	14	-
297	29	39	58	-
305	-	-	-	-
311	-	-	276	-
318	13	31	691	-
324	37	-	36	-
333	34	15	58	-

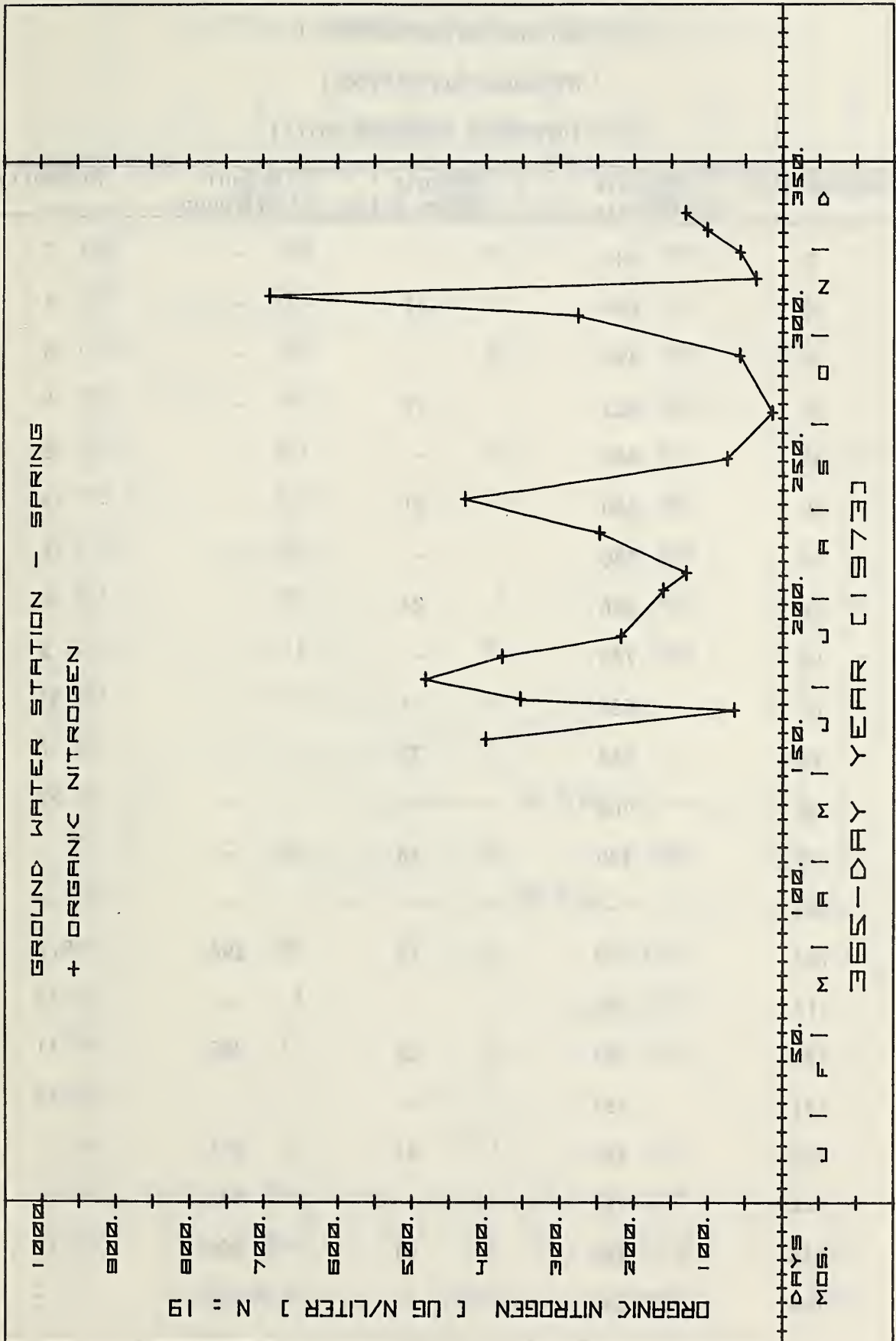
Ground Station Spring (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
341	31	-	102	-
347	44	-	131	
	N=18	N=10	N=19	





Surface Water Station 1

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

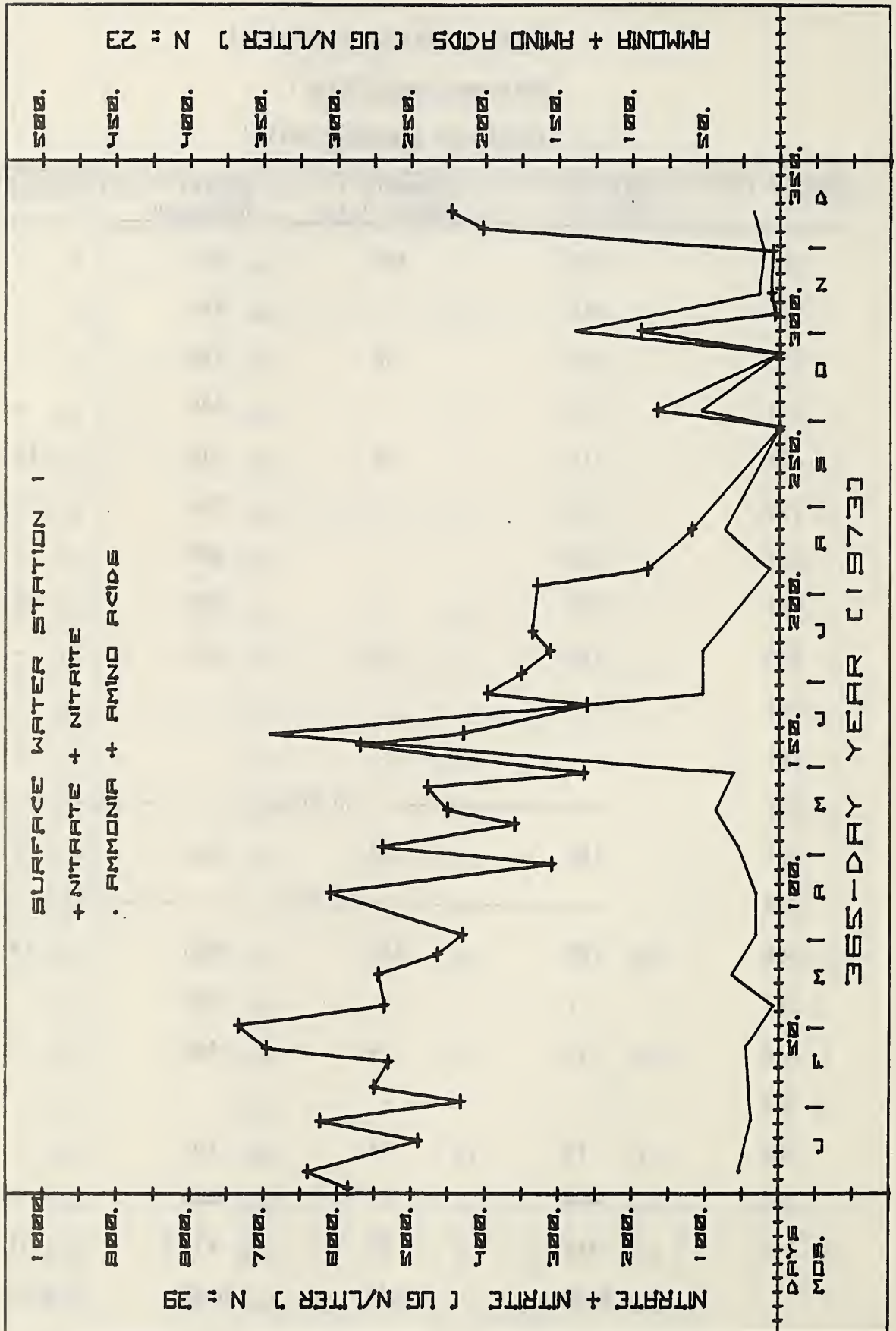
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	585	-	-	7
8	640	27	-	4
19	490	-	-	5
26	623	19	-	5
33	432	-	-	5
38	550	21	-	15
47	530	-	-	12
52	696	23	-	6
60	734	-	-	5
67	536	4	-	33
78	544	32	-	7
85	464	-	-	27
92	430	16	-	-
103	-	-	-	-
107	610	16	292	9.7
117	309	-	-	73
123	539	28	385	11
131	359	-	-	10
136	450	43	415	-
144	477	-	443	-
149	265	31	800	17
159	569	-	722	-

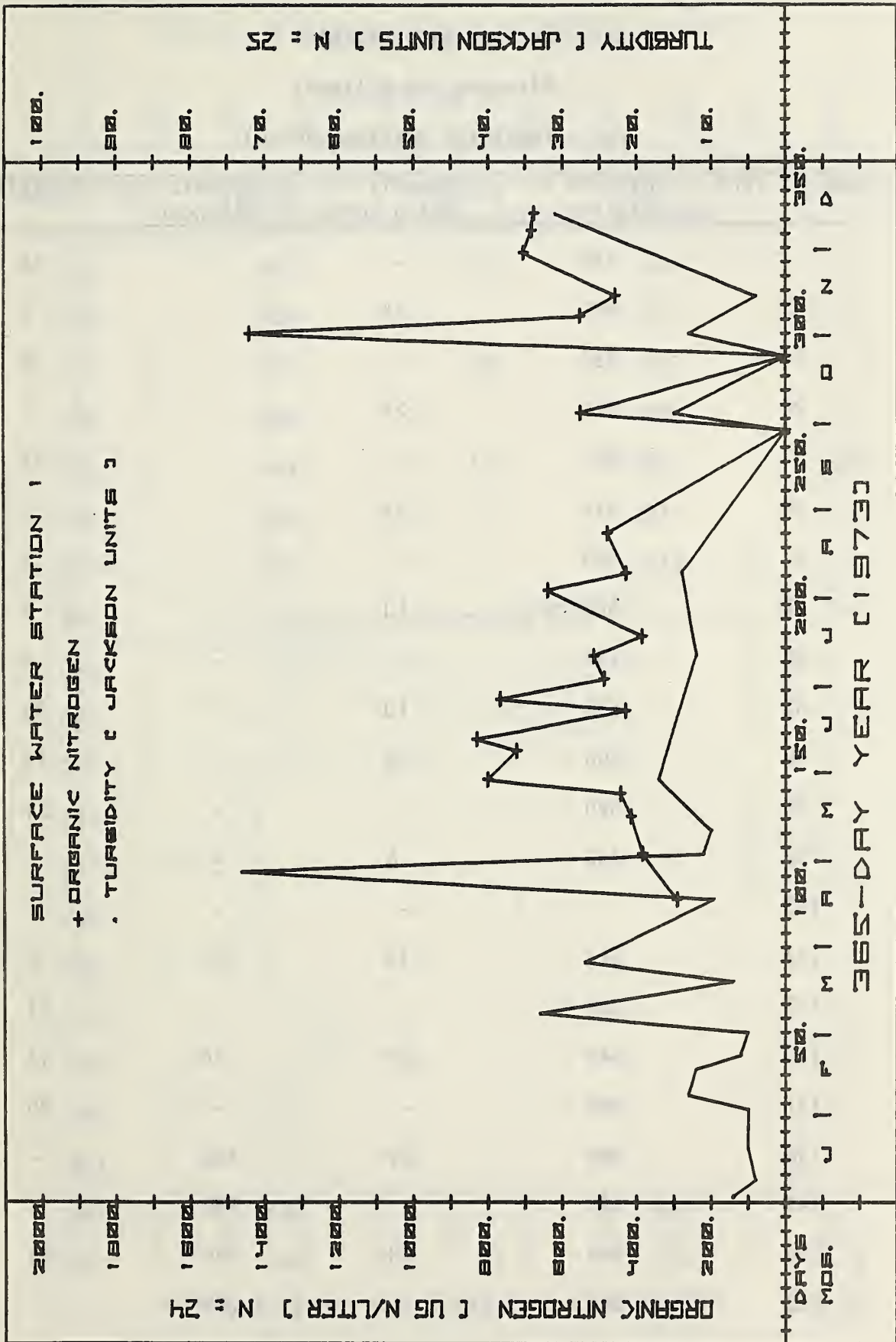
Surface Station 1 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	429	346	829	-
173	261	-	430	-
177	396	52	766	-
184	350	-	488	-
192	311	52	516	12
199	335	-	386	-
215	329	-	639	-
221	179	7	429	14
235	119	37	480	-
247	-	-	-	-
261	-	-	-	-
271	----- NO FLOW -----			
277	166	53	552	15
297	----- NO FLOW -----			
305	189	139	1440	13
311	7	-	553	-
318	12	14	458	4
324	-	-	-	-
333	10	11	705	-
341	404	-	683	-
347	446	18	676	31
	N=39	N=23	N=24	N=25





Surface Water Station 2

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

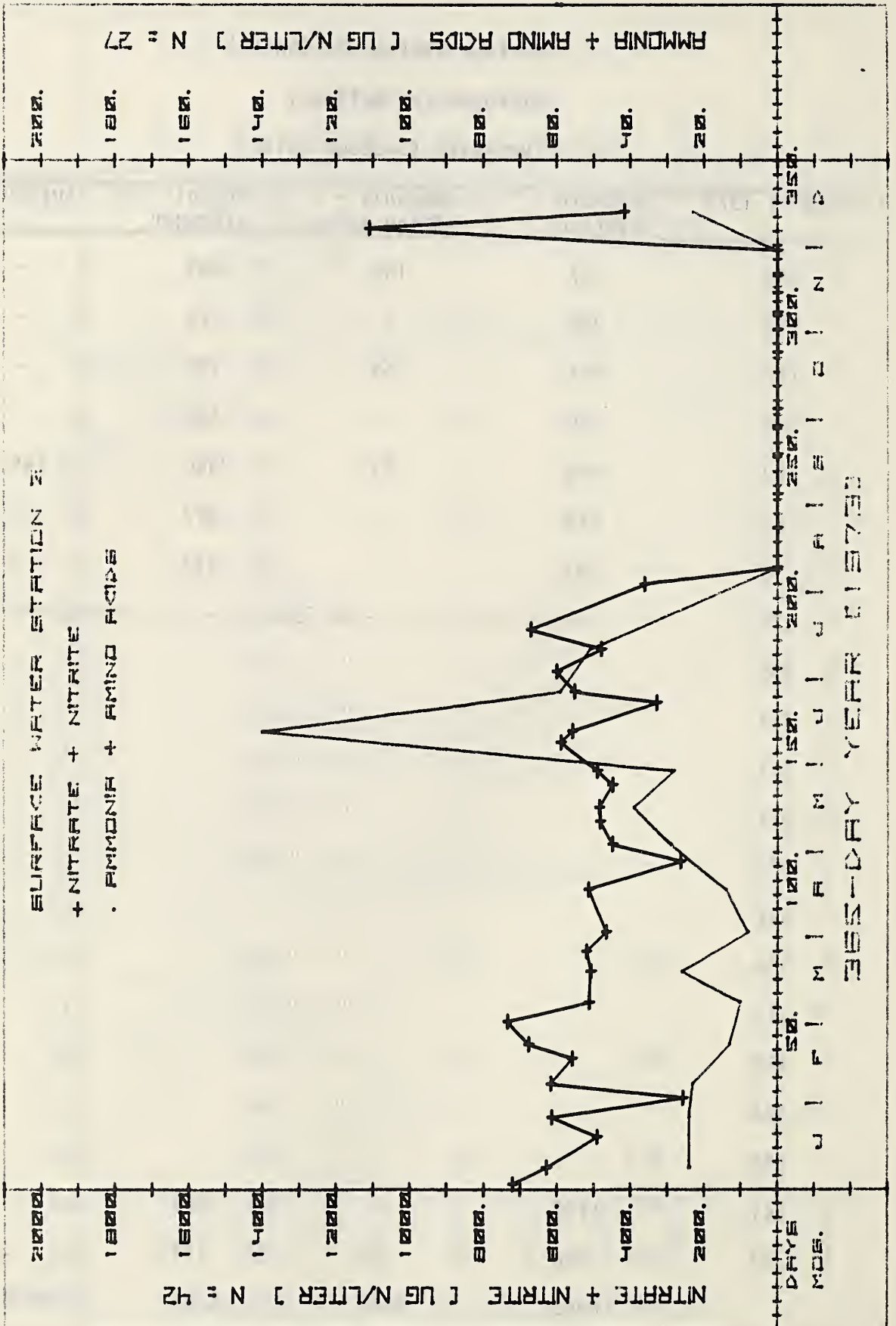
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	720	-	-	13
8	628	24	-	7
19	490	-	-	9
26	614	24	-	7
33	257	-	-	33
38	616	23	-	17
47	558	-	-	17
52	676	13	-	9
60	734	-	-	8
67	512	10	-	33
78	508	26	-	12
85	520	-	-	34
92	466	8	-	-
103	-	-	-	-
107	514	14	231	8
117	264	-	-	51
123	449	29	40	17
131	482	-	-	20
136	484	39	438	-
144	448	-	450	-
149	489	28	580	24
159	589	-	559	-

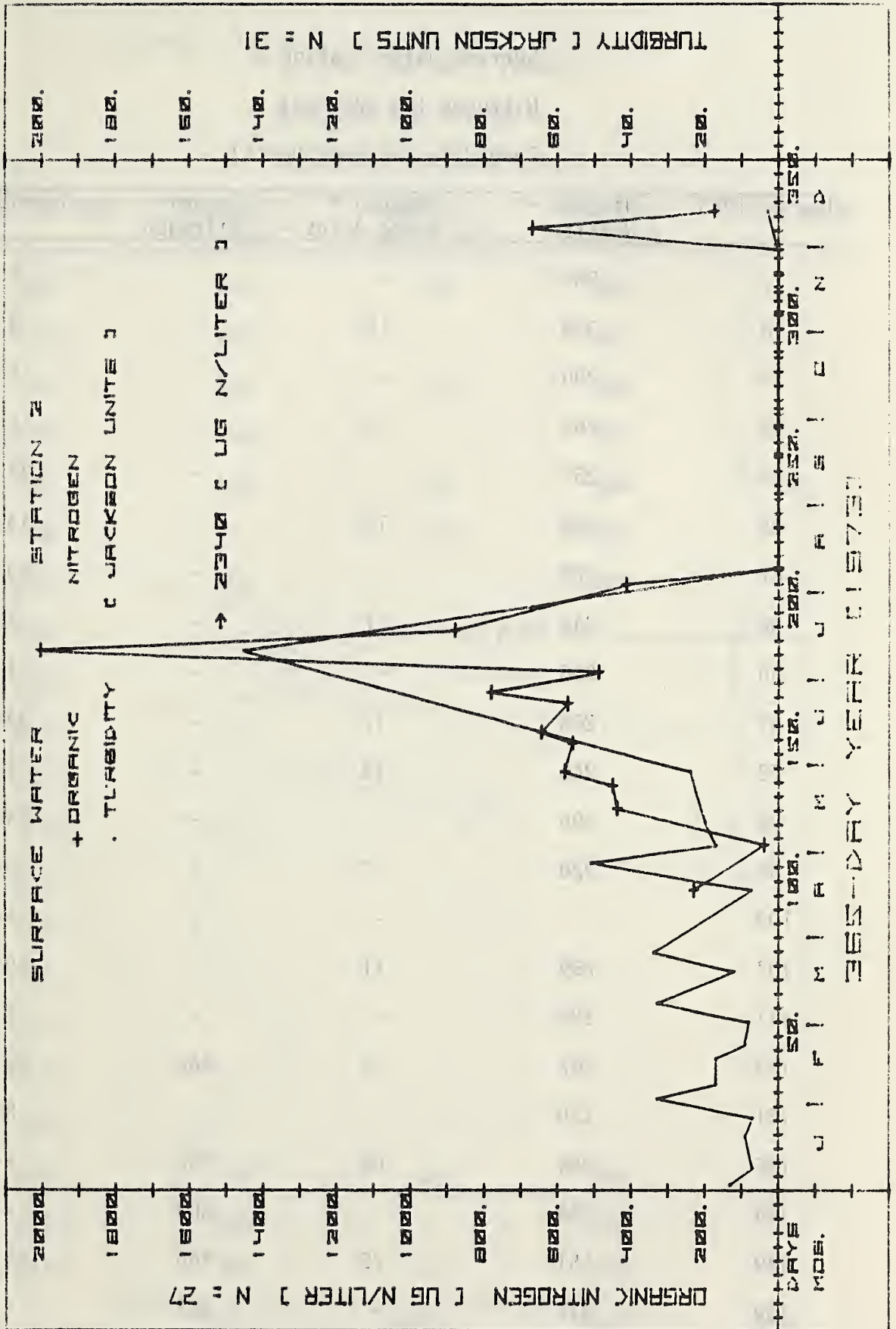
Surface Station 2 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	557	140	643	-
173	328	-	572	-
177	551	59	779	-
184	600	-	488	-
192	479	51	2340	145
199	670	-	877	-
215	361	-	413	-
221	----- NO FLOW -----			
235		" "		
247		" "		
261		" "		
271		" "		
277		" "		
297		" "		
305		" "		
311		" "		
318		" "		
324		" "		
333		" "		
341	1109	-	669	-
347	416	23	174	3
	N=42	N=27	N=27	N=31





Surface Water Station 3

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

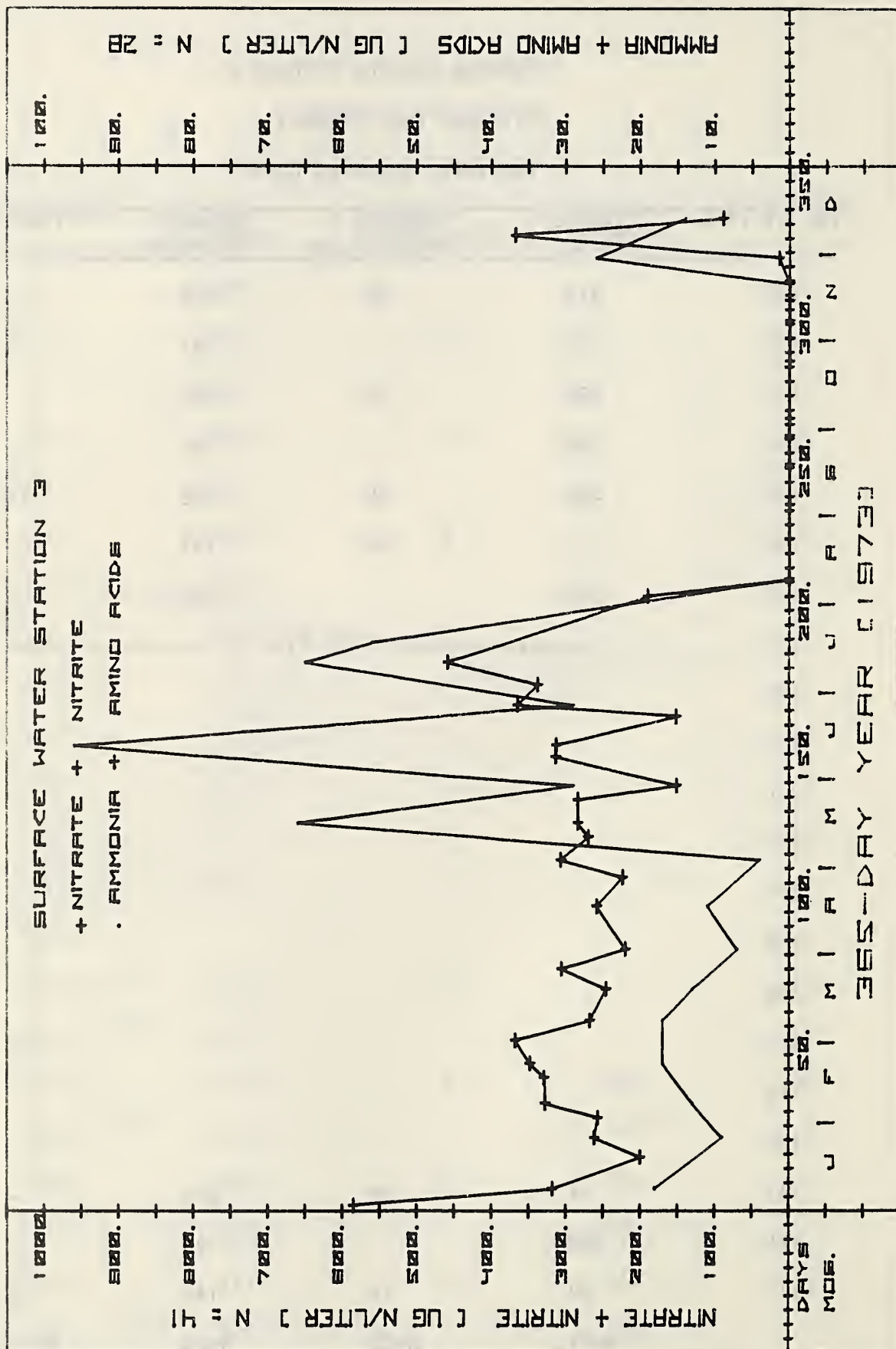
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	585	-	-	6
8	318	18	-	4
19	200	-	-	5
26	262	9	-	5
33	257	-	-	77
38	328	13	-	14
47	329	-	-	13
52	348	17	-	5
60	368	-	-	7
67	268	17	-	34
78	246	13	-	6
85	306	-	-	24
92	220	7	-	-
103	-	-	-	-
107	259	11	-	10
117	224	-	-	8
123	307	4	462	20
131	270	-	-	8
136	284	66	755	-
144	284	-	300	-
149	151	29	440	14
159	314	-	582	-

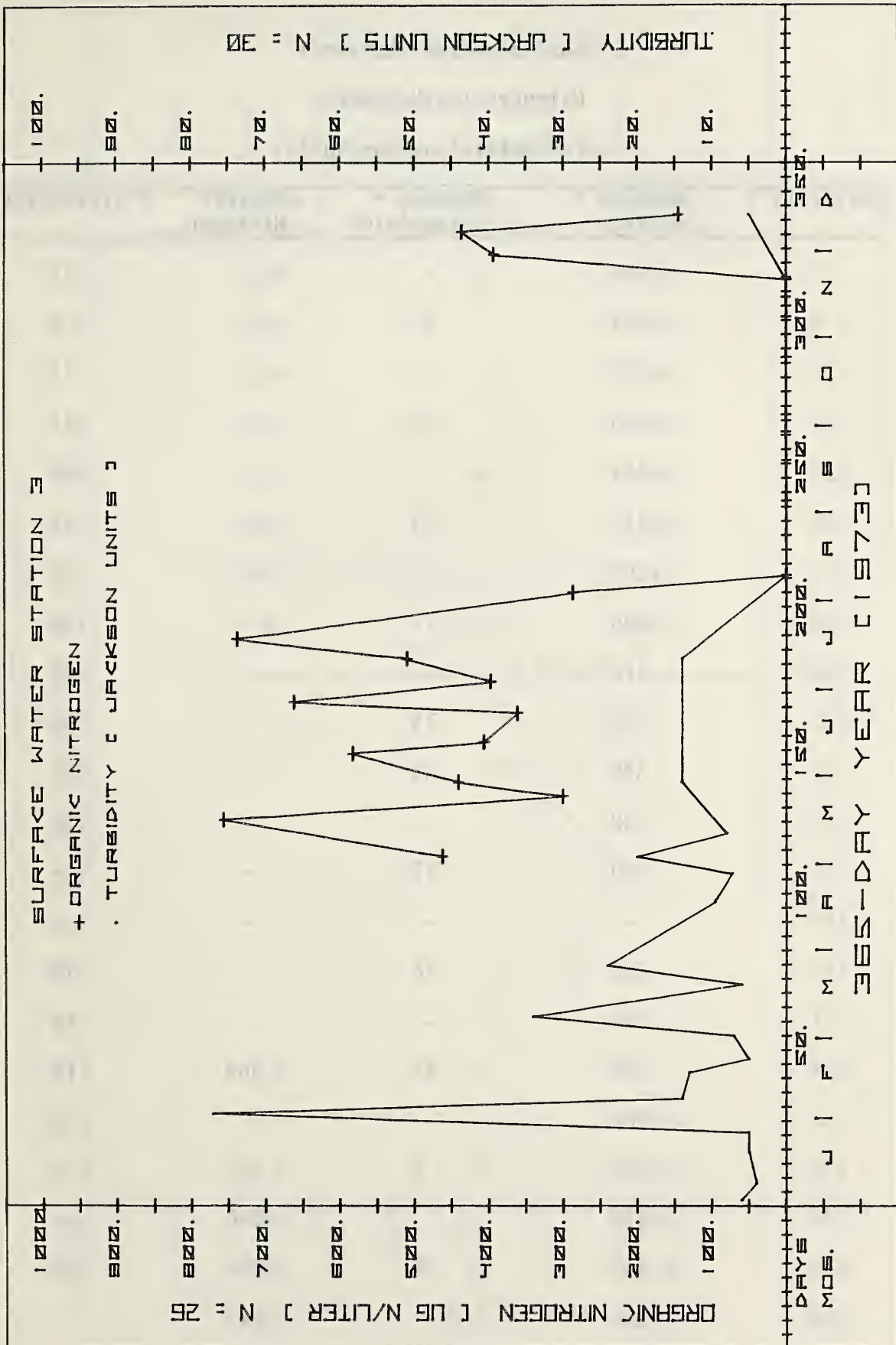
Surface Station 3 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	313	96	406	-
173	152	-	361	-
177	365	29	660	-
184	338	-	397	-
192	459	65	509	14
199	-	56	737	-
215	190	-	287	-
221	----- NO FLOW -----			
235		" "		
247		" "		
261		" "		
271		" "		
277		" "		
297		" "		
305		" "		
311		" "		
318		" "		
324		" "		
333	14	26	393	-
341	368	-	393	-
347	89	14	145	5
	N=41	N=28	N=26	N=30





Surface Water Station 4

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

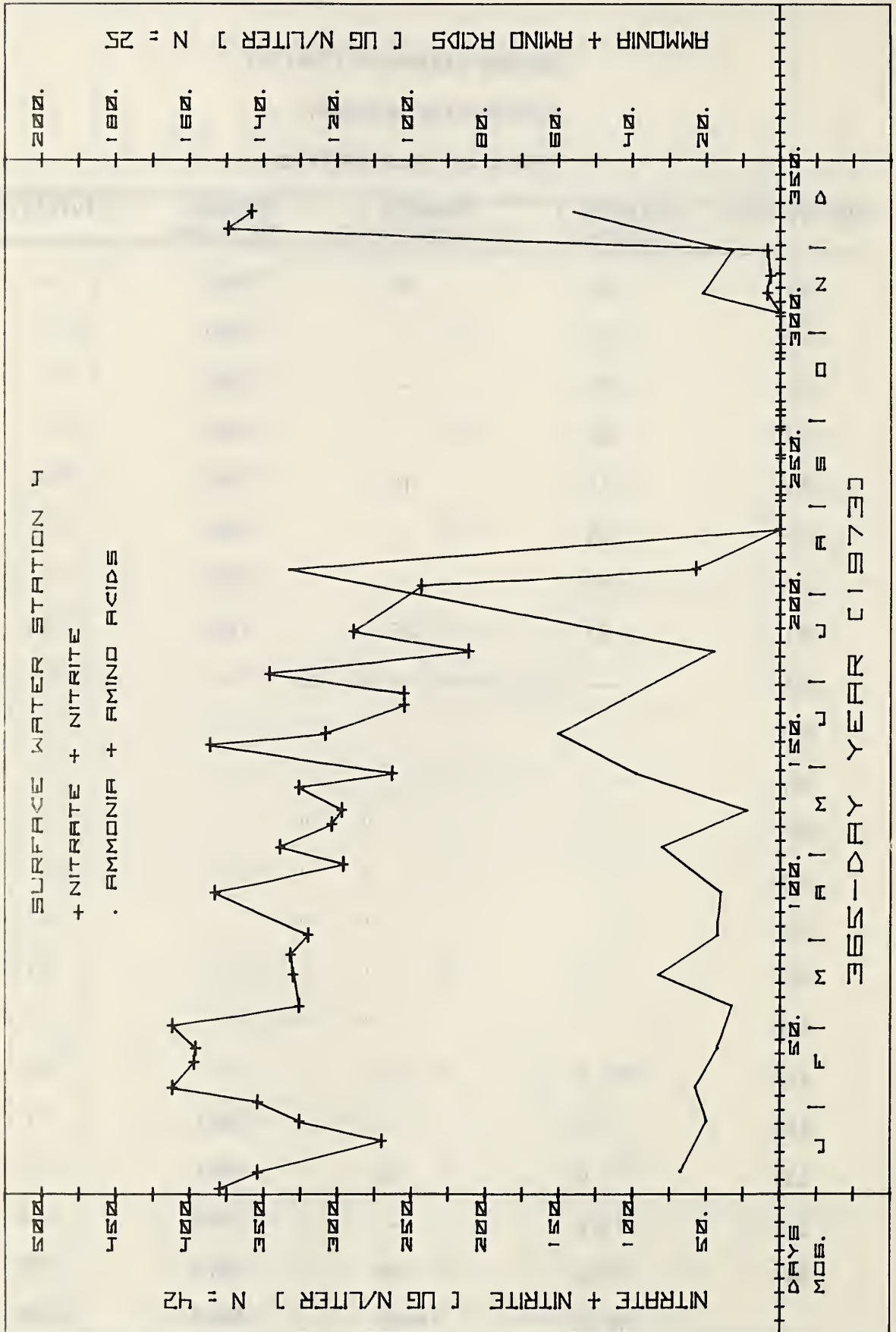
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	380	-	-	17
8	354	27	-	9
19	270	-	-	11
26	326	20	-	11
33	354	-	-	20
38	412	23	-	17
47	397	-	-	20
52	396	17	-	12
60	412	-	-	15
67	326	13	-	19
78	330	33	-	12
85	332	-	-	37
92	320	17	-	-
103	-	-	-	-
107	383	16	-	10
117	296	-	-	65
123	339	32	369	15
131	304	-	-	12
136	297	9	325	-
144	326	-	314	-
149	263	39	602	20
159	386	-	595	-

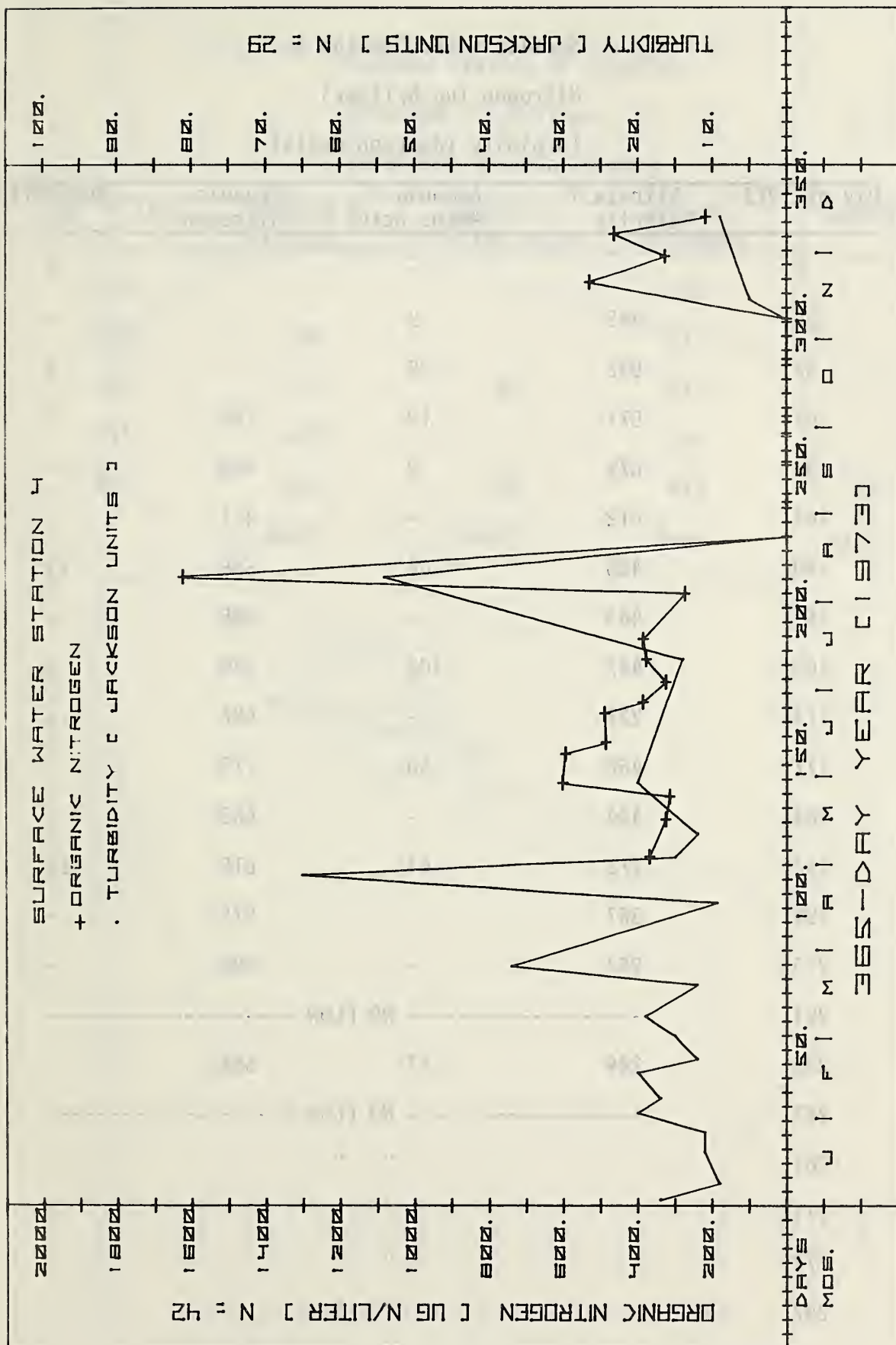
Surface Station 4 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	308	60	486	-
173	255	-	490	-
177	255	-	386	-
184	346	-	325	-
192	211	18	378	14
199	289	-	386	-
215	243	-	274	-
221	57	133	1621	54
235	----- NO FLOW -----			
247		" "		
261		" "		
271		" "		
277		" "		
297		" "		
305		" "		
311		" "		
318	9	21	-	5
324	7	-	531	-
333	9	13	327	-
341	374	-	465	-
347	358	56	218	9
	N=42	N=25	N=25	N=29





Surface Water Station SL

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

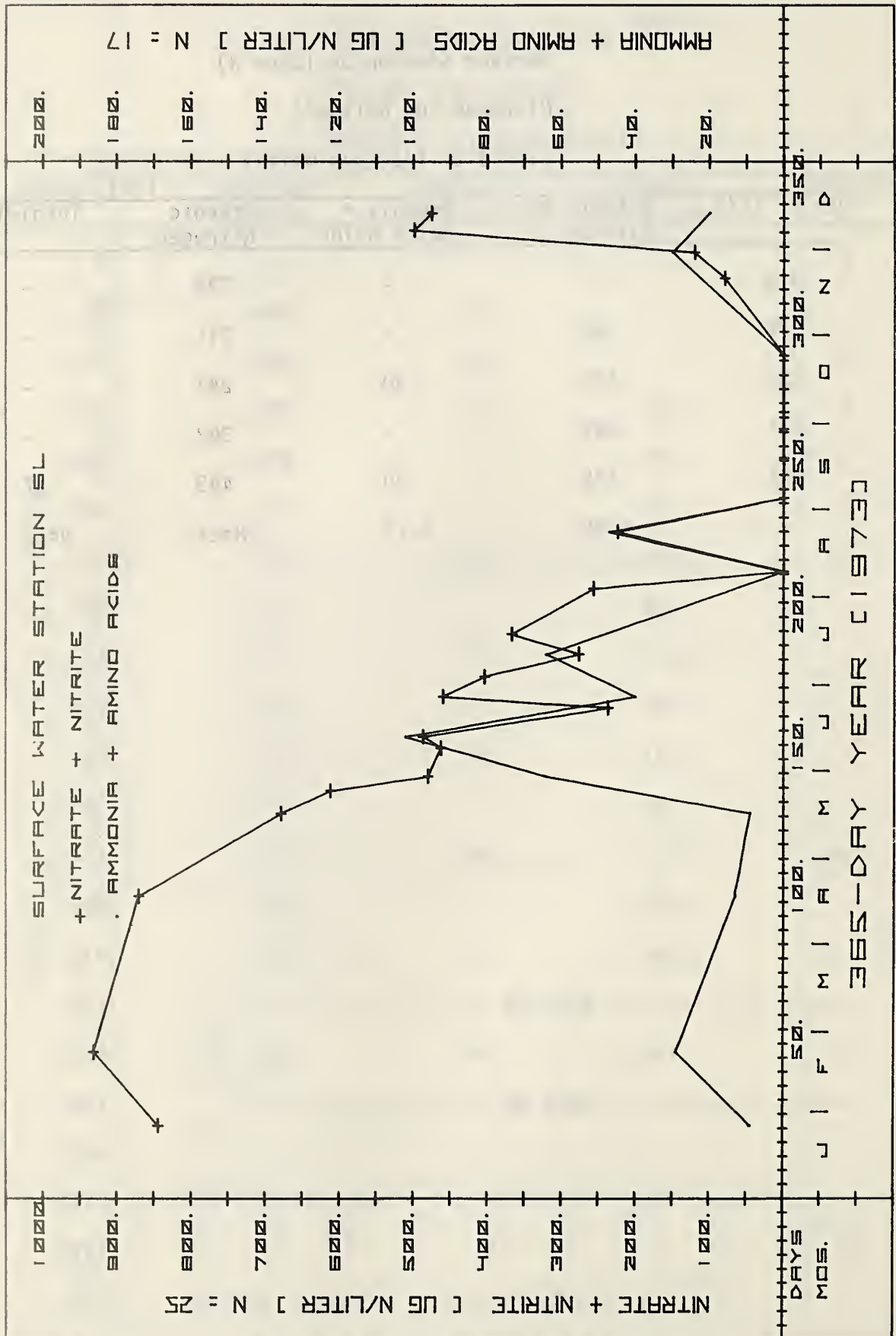
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	-	-	-	5
26	845	9	-	-
52	932	29	-	5
107	871	13	169	7
136	679	9	445	-
144	612	-	421	-
149	480	64	558	21
159	463	-	588	-
163	487	102	579	-
173	237	-	486	-
177	460	40	719	-
184	404	-	663	-
192	278	64	618	29
199	367	-	575	-
215	257	-	392	-
221	----- NO FLOW -----			
235	224	47	553	-
247	----- NO FLOW -----			
261		" "		
271		" "		
277		" "		
297		" "		

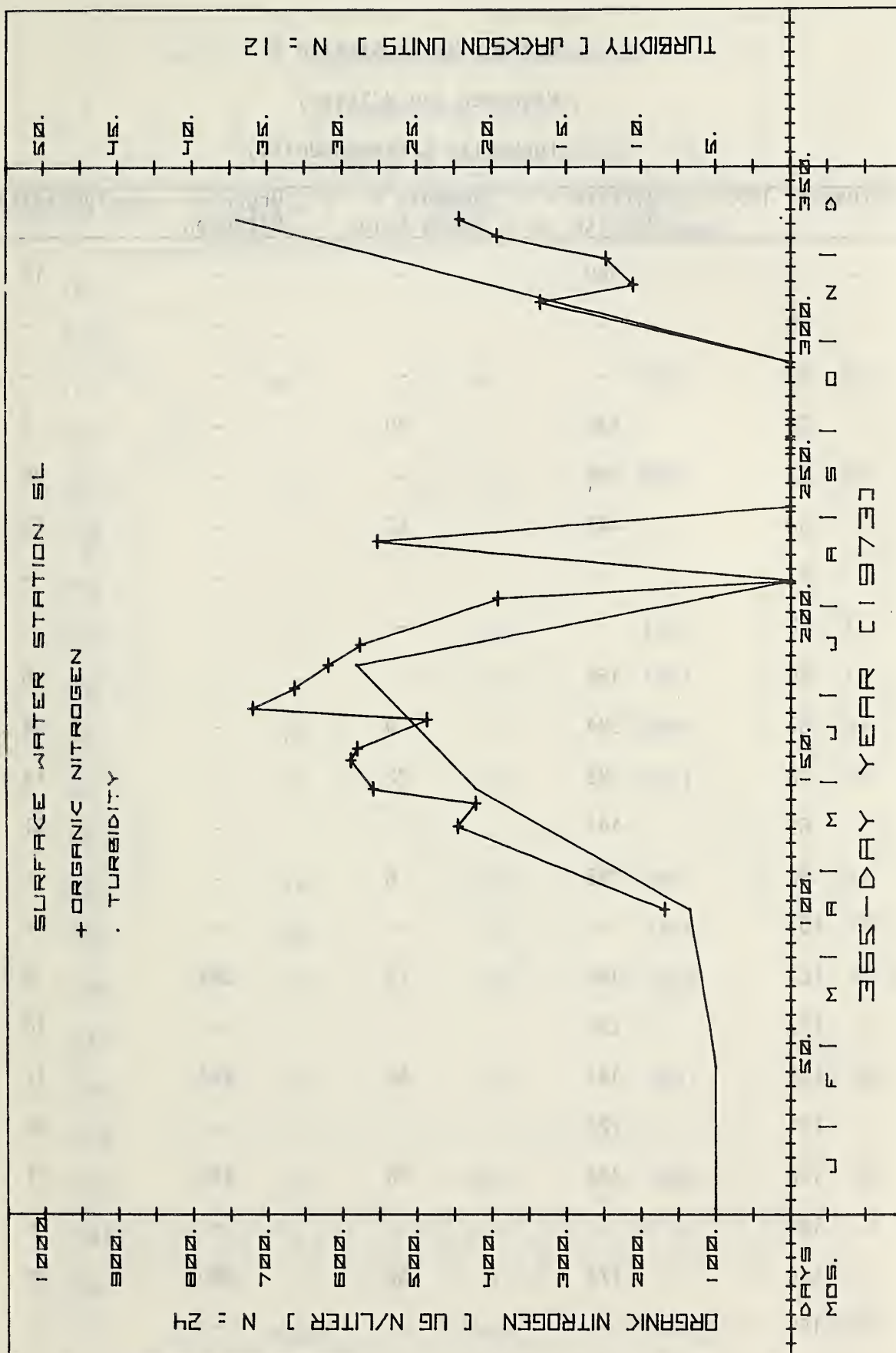
Surface Station SL (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
318	-	-	335	-
324	80	-	211	-
333	121	30	247	-
341	499	-	393	-
347	475	20	443	37
	N=25	N=17	N=24	N=12





Surface Water Station 5

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

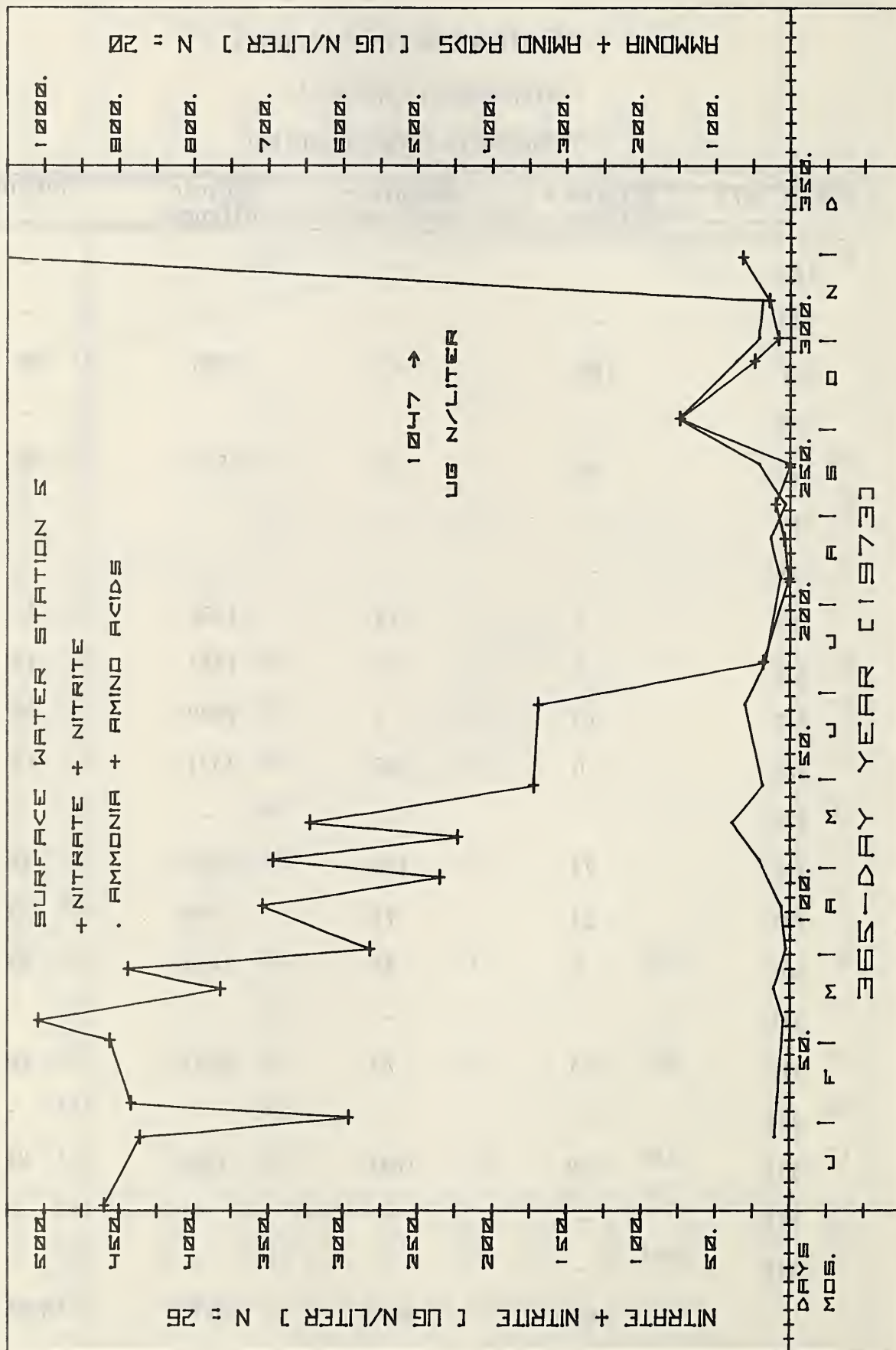
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	460	-	-	13
8	-	-	-	-
19	-	-	-	-
26	436	20	-	9
33	296	-	-	90
38	442	17	-	12
47	-	-	-	-
52	-	-	-	-
60	456	-	-	8
67	504	9	-	24
78	382	22	-	18
85	444	-	-	31
92	282	6	-	-
103	-	-	-	-
107	354	13	262	8
117	235	-	-	10
123	347	42	492	12
131	223	-	-	30
136	322	78	445	11
144	-	-	-	-
149	172	37	580	26
159	-	-	-	-

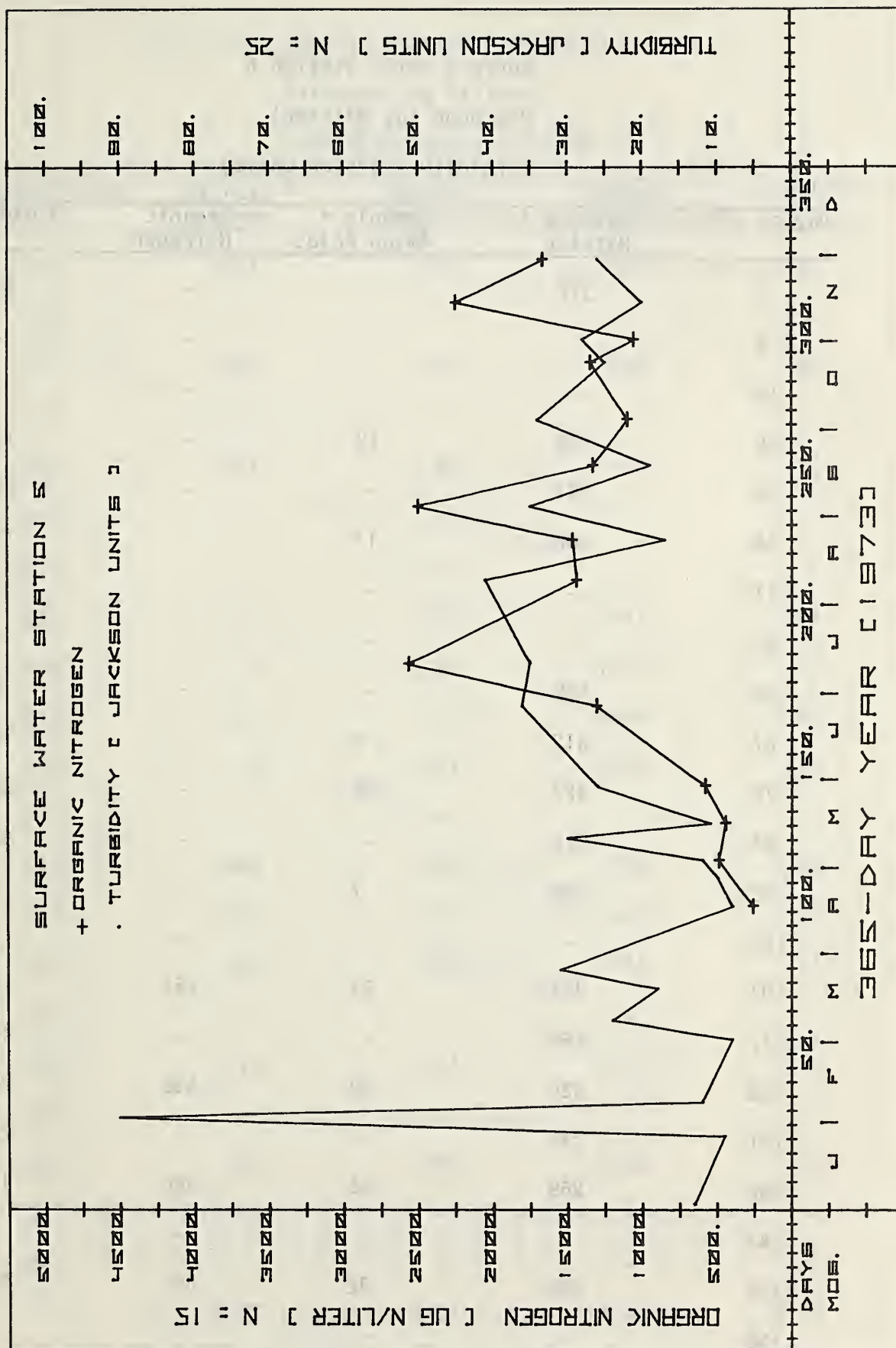
Surface Station 5 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	-	-	-	-
173	-	-	-	-
177	169	61	1305	36
184	-	-	-	-
192	18	33	2559	35
199	-	-	-	-
215	-	-	-	-
221	1	13	1439	41
235	4	27	1467	17
247	10	7	2499	35
261	0	42	1331	19
271	-	-	-	-
277	74	150	1097	34
297	24	72	1345	25
305	8	42	1056	28
311	-	-	-	-
318	14	37	2247	20
324	-	-	-	-
333	32	1047	1665	26
341	-	-	-	-
347	-	-	-	-
	N=26	N=20	N=15	N=25





Surface Water Station 6

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

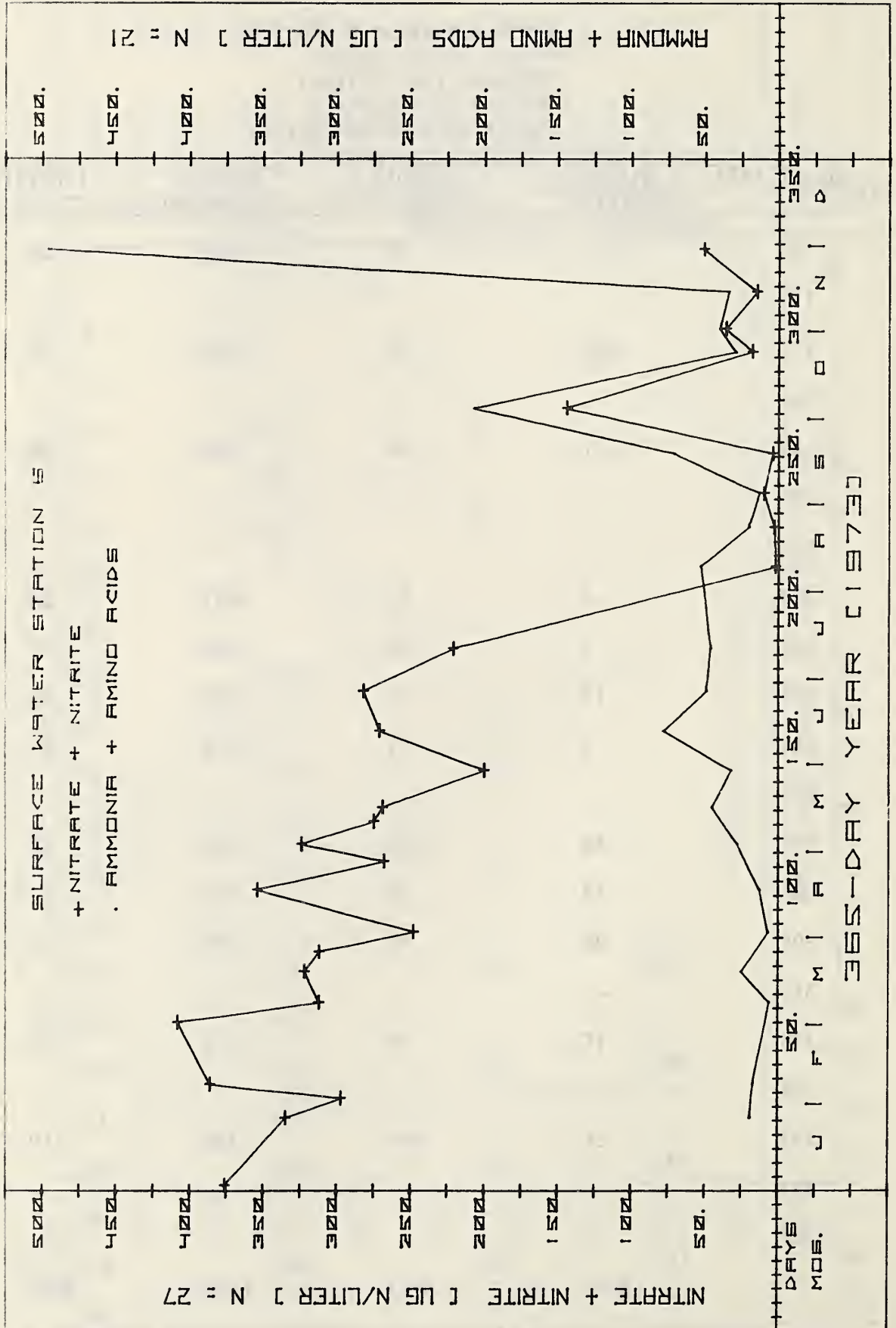
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	376	-	-	37
8	-	-	-	-
19	-	-	-	-
26	335	19	-	13
33	297	-	-	72
38	386	17	-	17
47	-	-	-	-
52	-	-	-	-
60	408	-	-	9
67	312	6	-	18
78	322	25	-	20
85	312	-	-	42
92	248	7	-	-
103	-	-	-	-
107	354	13	262	12
117	268	-	-	40
123	324	28	538	29
131	275	-	-	23
136	269	45	340	11
144	-	-	-	-
149	200	32	697	30
159	-	-	-	-

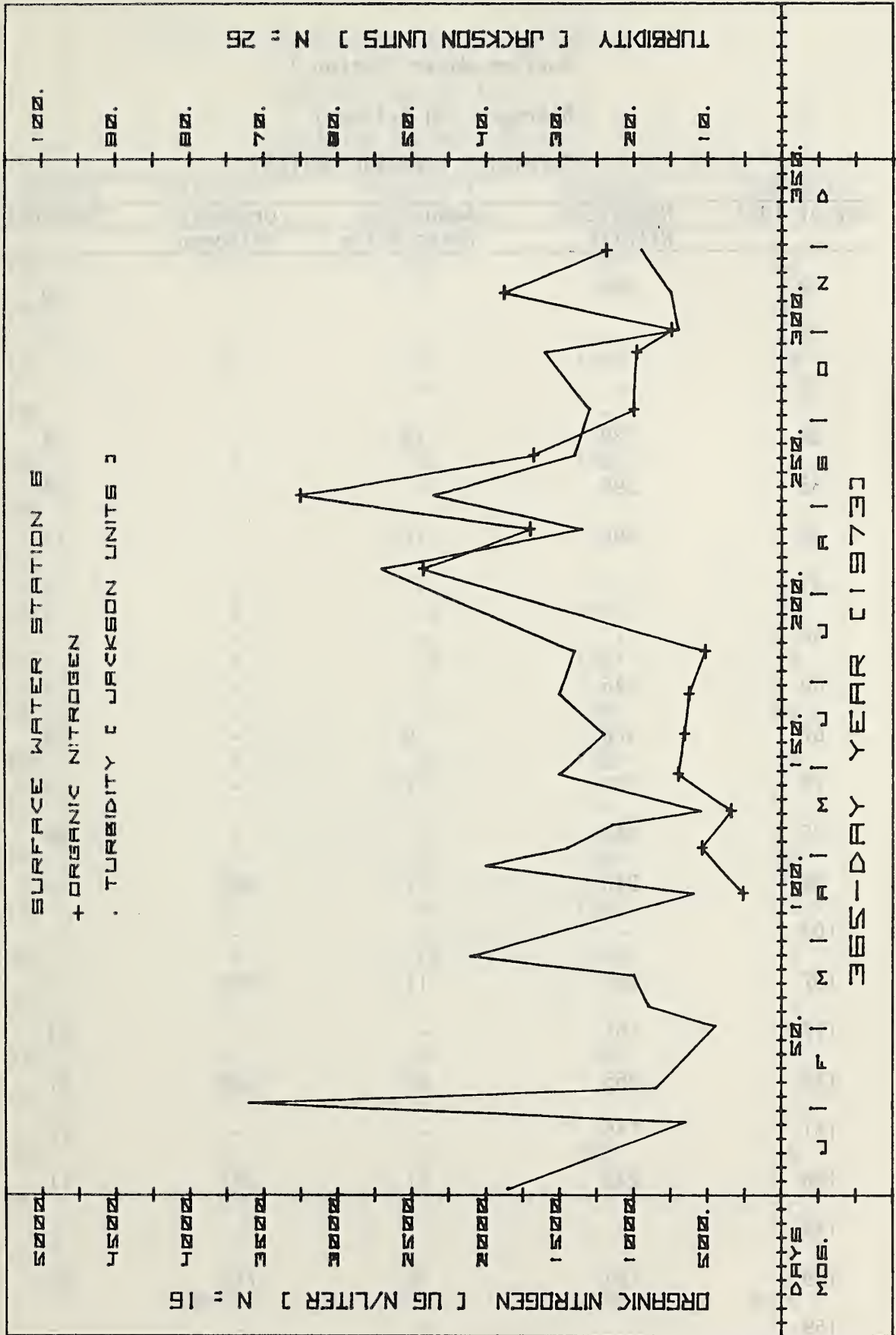
Surface Station 6 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	271	78	657	24
173	-	-	-	-
177	282	49	626	30
184	-	-	-	-
192	221	46	516	28
199	-	-	-	-
215	-	-	-	-
221	2	53	2421	54
235	3	20	1700	27
247	10	13	3249	47
261	4	71	1676	28
271	-	-	-	-
277	144	207	998	26
297	18	29	981	32
305	36	40	744	14
311	-	-	-	-
318	15	34	1876	15
324	-	-	-	-
333	51	496	1185	19
341	-	-	-	-
347	-	-	-	-
	N=27	N=21	N=16	N=26





Surface Water Station 7

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

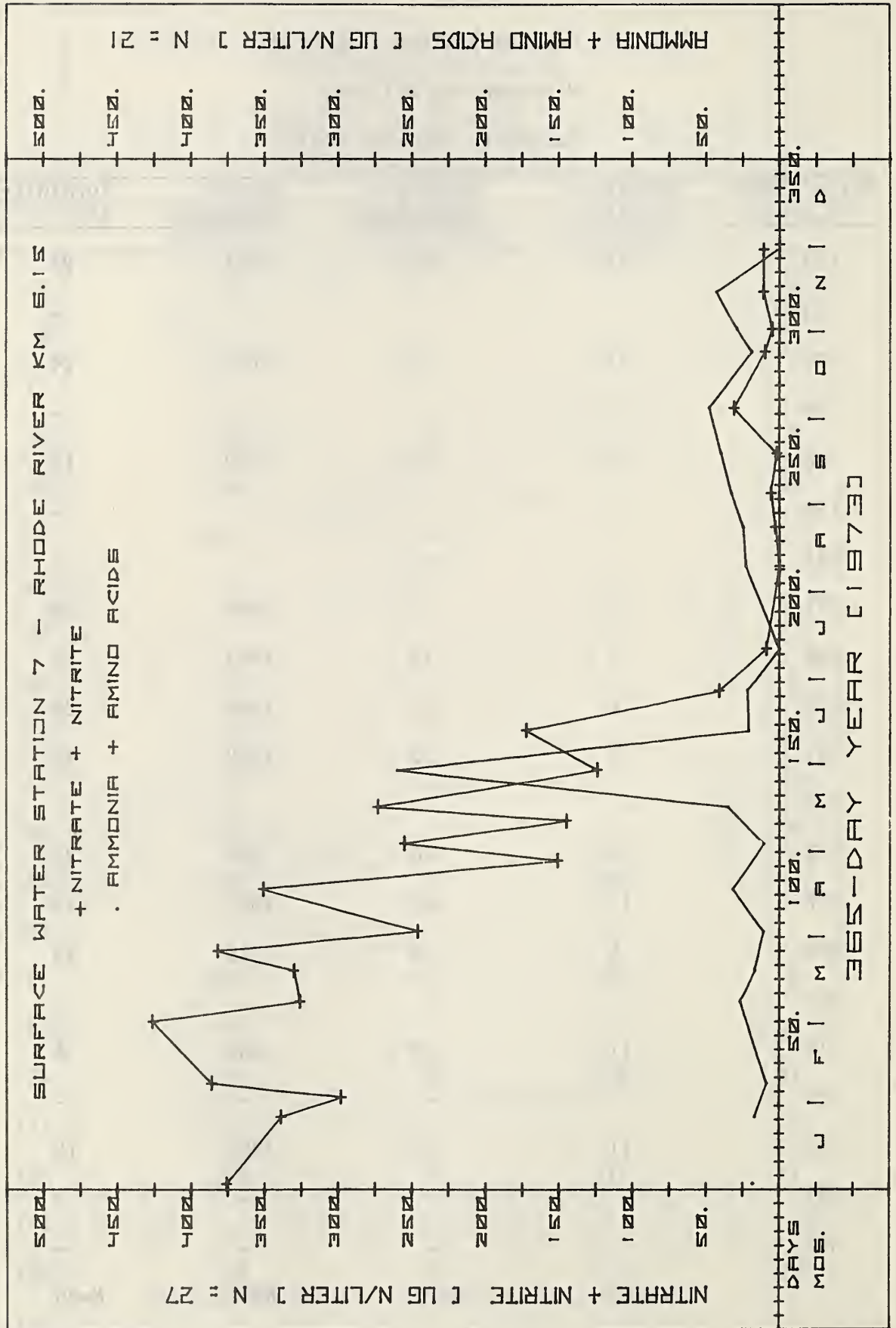
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	376	-	-	16
8	-	-	-	-
19	-	-	-	-
26	339	18	-	9
33	298	-	-	54
38	386	17	-	17
47	-	-	-	-
52	-	-	-	-
60	426	-	-	9
67	326	9	-	12
78	330	27	-	13
85	382	-	-	56
92	246	17	407	-
103	-	-	-	-
107	351	11	223	9
117	151	-	-	14
123	255	32	638	21
131	145	-	-	20
136	273	11	377	11
144	-	-	-	-
149	124	35	712	25
159	-	-	-	-

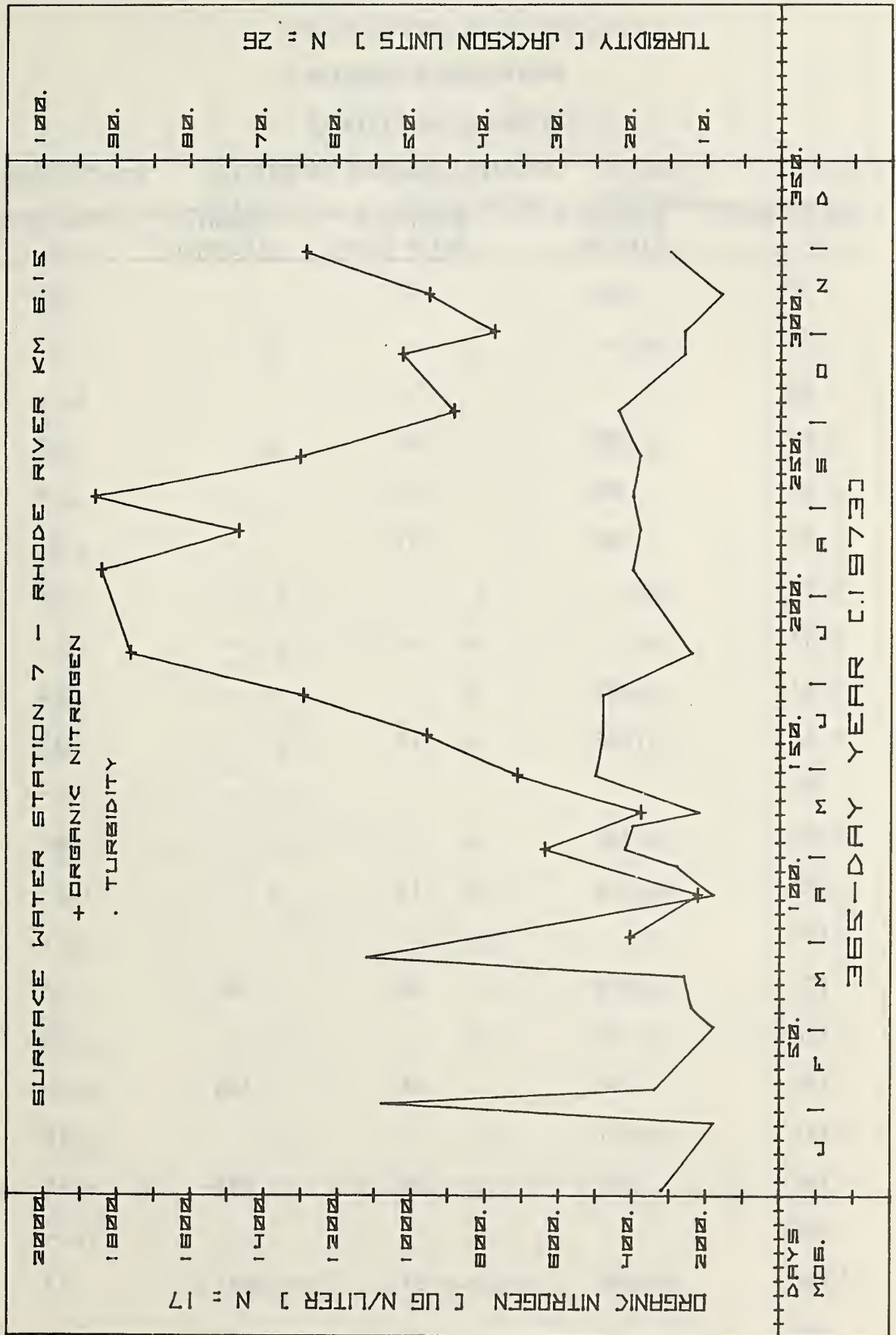
Surface Station 7 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	172	260	957	24
173	-	-	-	-
177	41	21	1292	24
184	-	-	-	-
192	9	22	1759	12
199	-	-	-	-
215	-	-	-	-
221	0	0	1839	20
235	3	23	1467	19
247	6	25	1856	20
261	2	33	1302	19
271	-	-	-	-
277	31	40	885	22
297	10	48	1025	13
305	5	19	776	13
311	-	-	-	-
318	11	29	953	8
324	-	-	-	-
333	11	43	1287	15
341	-	-	-	-
347	-	-	-	-
	N=27	N=21	N=17	N=26





Surface Water Station 8

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

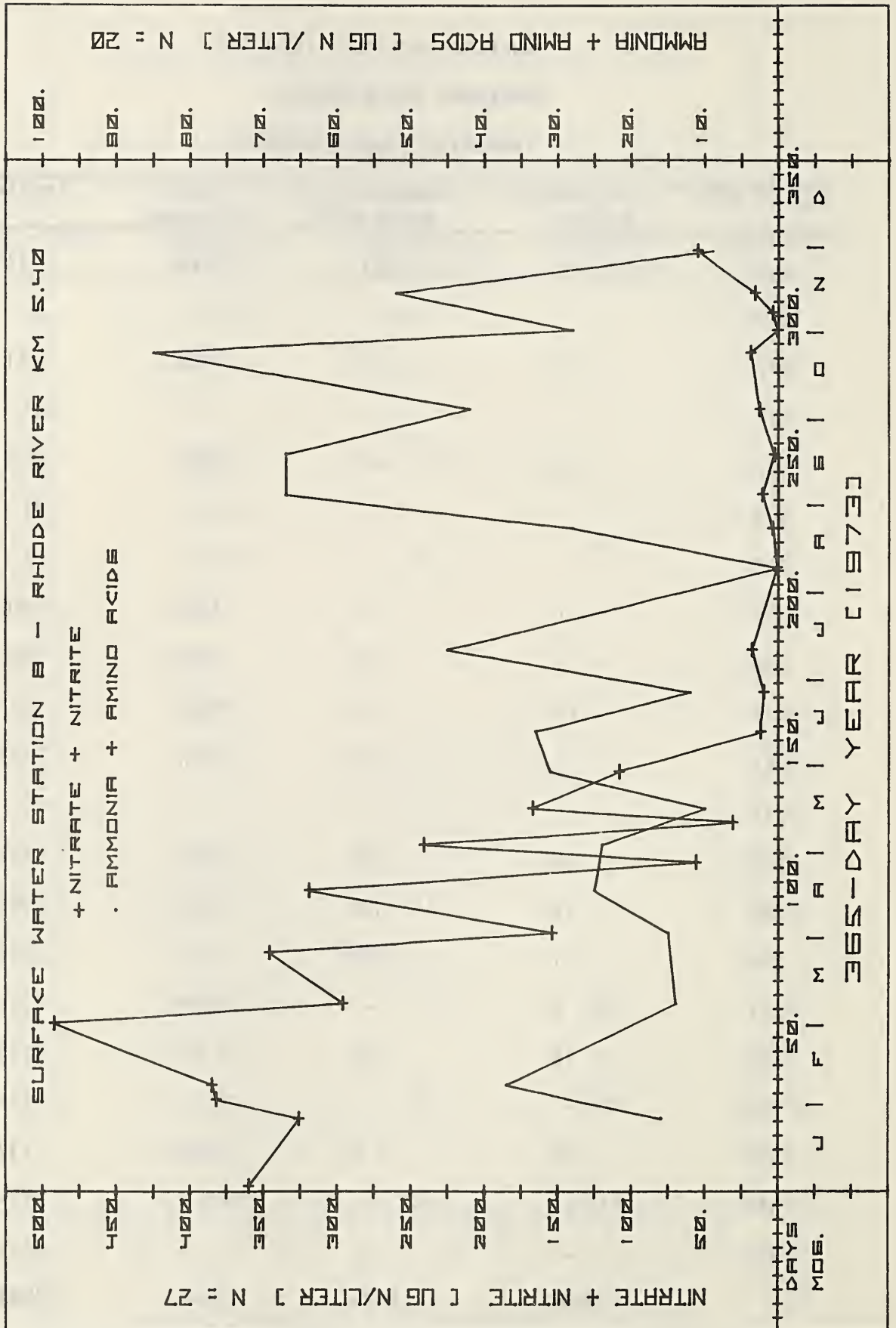
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	360	-	-	22
8	-	-	-	-
19	-	-	-	-
26	326	16	-	11
33	382	-	-	14
38	385	37	-	17
47	-	-	-	-
52	-	-	-	-
60	492	-	-	6
67	296	14	-	10
78	-	-	-	-
85	346	-	-	61
92	154	15	-	-
103	-	-	-	-
107	319	25	362	8
117	56	-	-	13
123	241	24	538	20
131	31	-	-	18
136	167	10	815	15
144	-	-	-	-
149	108	31	572	13
159	-	-	-	-

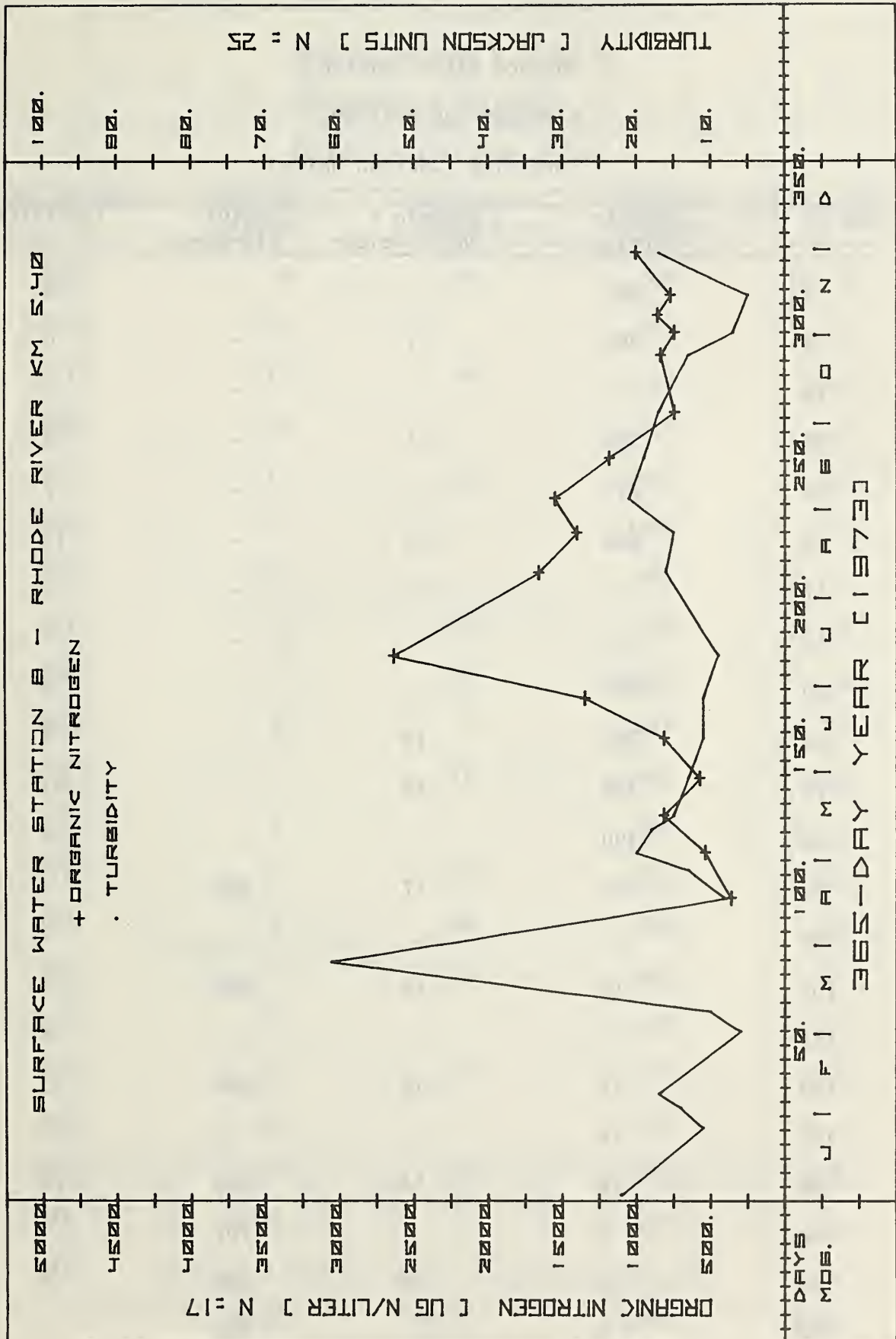
Surface Station 8 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	12	33	814	11
173	-	-	-	-
177	10	12	1345	11
184	-	-	-	-
192	18	45	2632	9
199	-	-	-	-
215	-	-	-	-
221	1	0	1658	16
235	4	28	1400	15
247	11	67	1549	21
261	3	67	1182	19
271	-	-	-	-
277	13	42	743	17
297	19	85	836	13
305	1	28	744	7
311	4	-	858	-
318	16	52	771	5
324	-	-	-	-
333	55	9	1003	17
341	-	-	-	-
347	-	-	-	-
	N=27	N=20	N=17	N=25





Surface Water Station 9

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

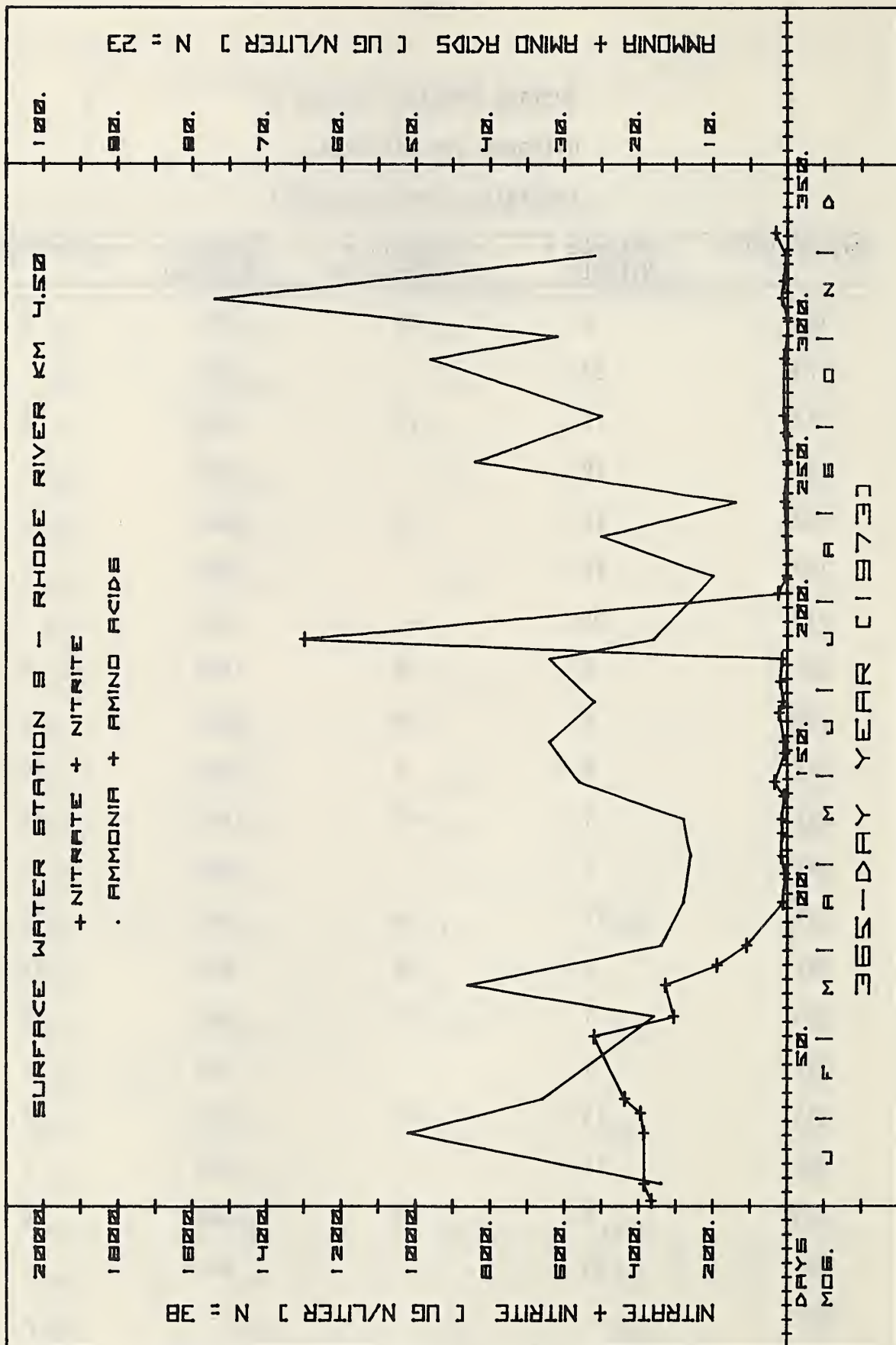
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	366	-	-	6
8	385	17	-	6
19	-	-	-	-
26	380	51	-	3
33	395	-	-	7
38	438	33	-	15
47	-	-	-	-
52	-	-	-	-
60	521	-	-	5
67	306	18	-	8
78	328	43	-	43
85	190	-	-	5
92	110	17	690	-
103	-	-	-	-
107	13	14	808	9
117	7	-	-	8
123	17	13	1069	12
131	15	-	-	12
136	15	14	1675	20
144	9	-	1707	-
149	35	28	888	8
159	8	-	900	-

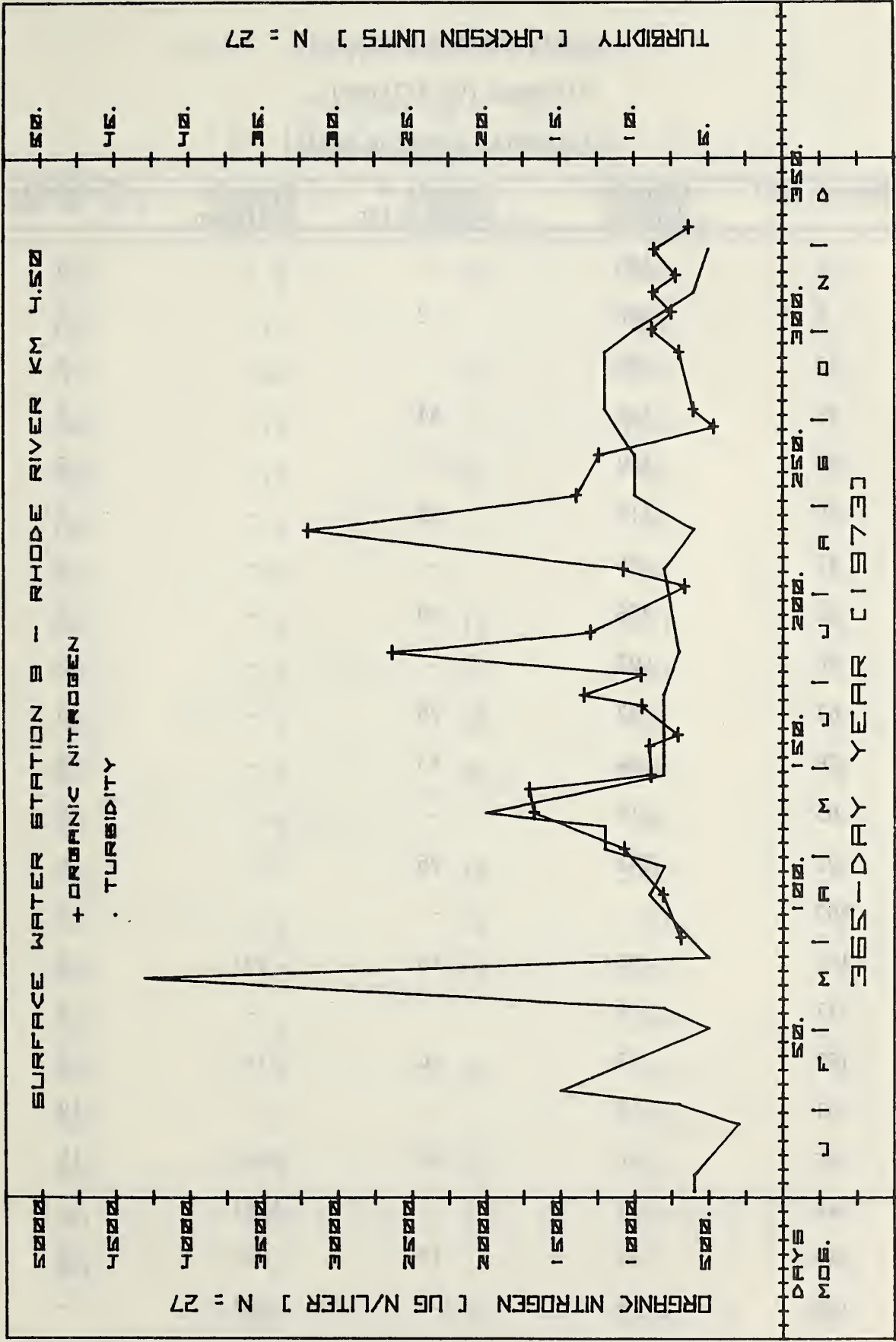
Surface Station 9 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	9	32	707	8
173	23	-	951	-
177	12	26	1339	8
184	19	-	956	-
192	15	32	2632	7
199	18	-	1298	-
215	25	-	661	-
221	2	10	1076	8
235	4	25	3200	6
247	8	7	1392	10
261	1	42	1242	10
271	7	-	464	-
277	11	25	602	12
297	9	48	698	12
305	1	31	880	10
311	1	-	749	-
318	15	77	873	6
324	11	-	720	-
333	5	26	865	5
341	33	-	632	-
347	-	-	-	-
	N=38	N=23	N=27	N=27





Surface Water Station 10

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

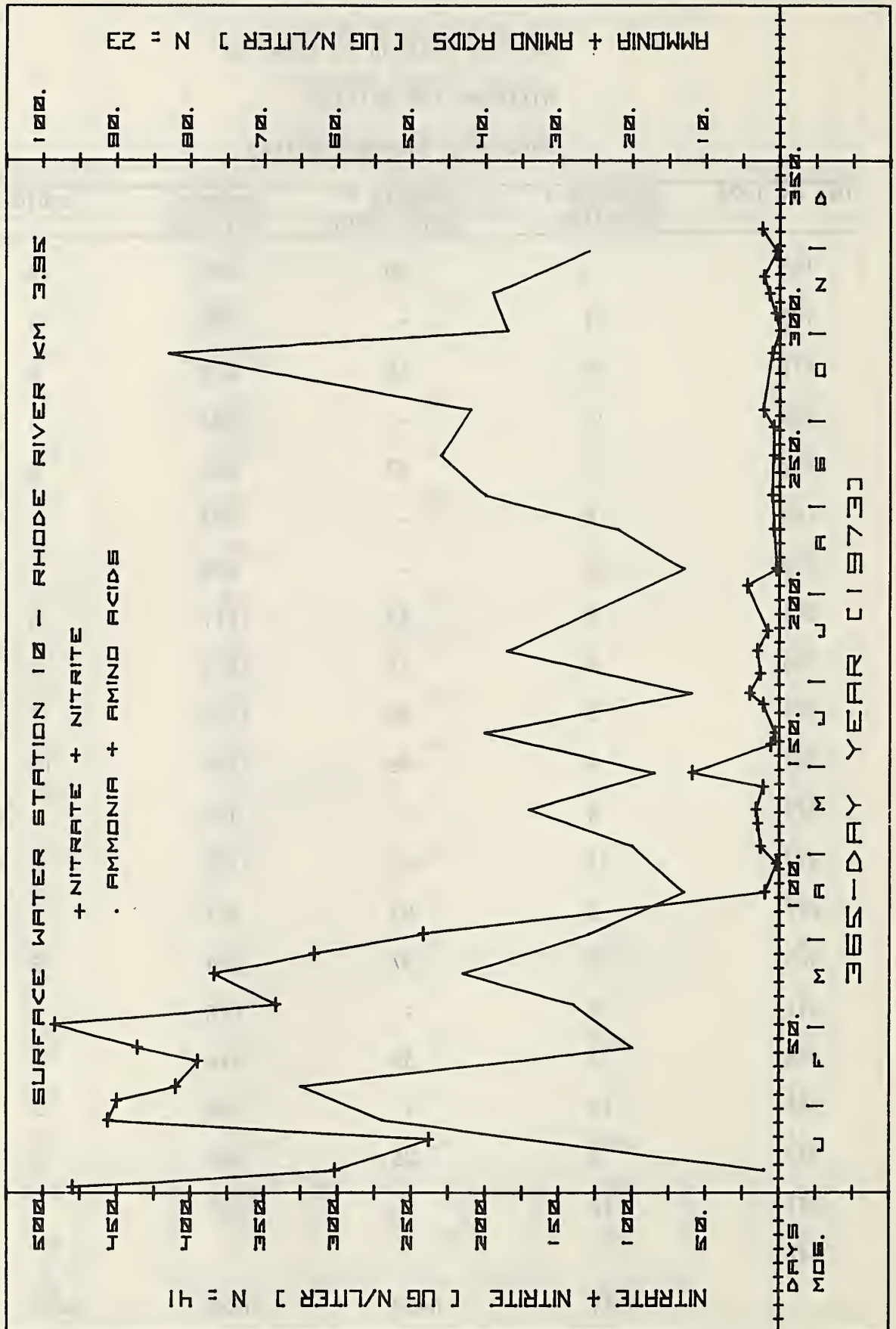
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	480	-	-	5
8	302	2	-	5
19	238	-	-	5
26	456	54	-	3
33	450	-	-	5
38	410	65	-	7
47	395	-	-	5
52	436	20	-	5
60	492	-	-	5
67	342	28	-	6
78	384	43	-	12
85	316	-	-	5
92	242	26	-	-
103	-	-	-	-
107	10	13	931	8
117	2	-	-	8
123	13	20	1162	8
131	15	-	-	10
136	16	34	1826	15
144	11	-	1341	-
149	59	17	800	6
159	6	-	807	-

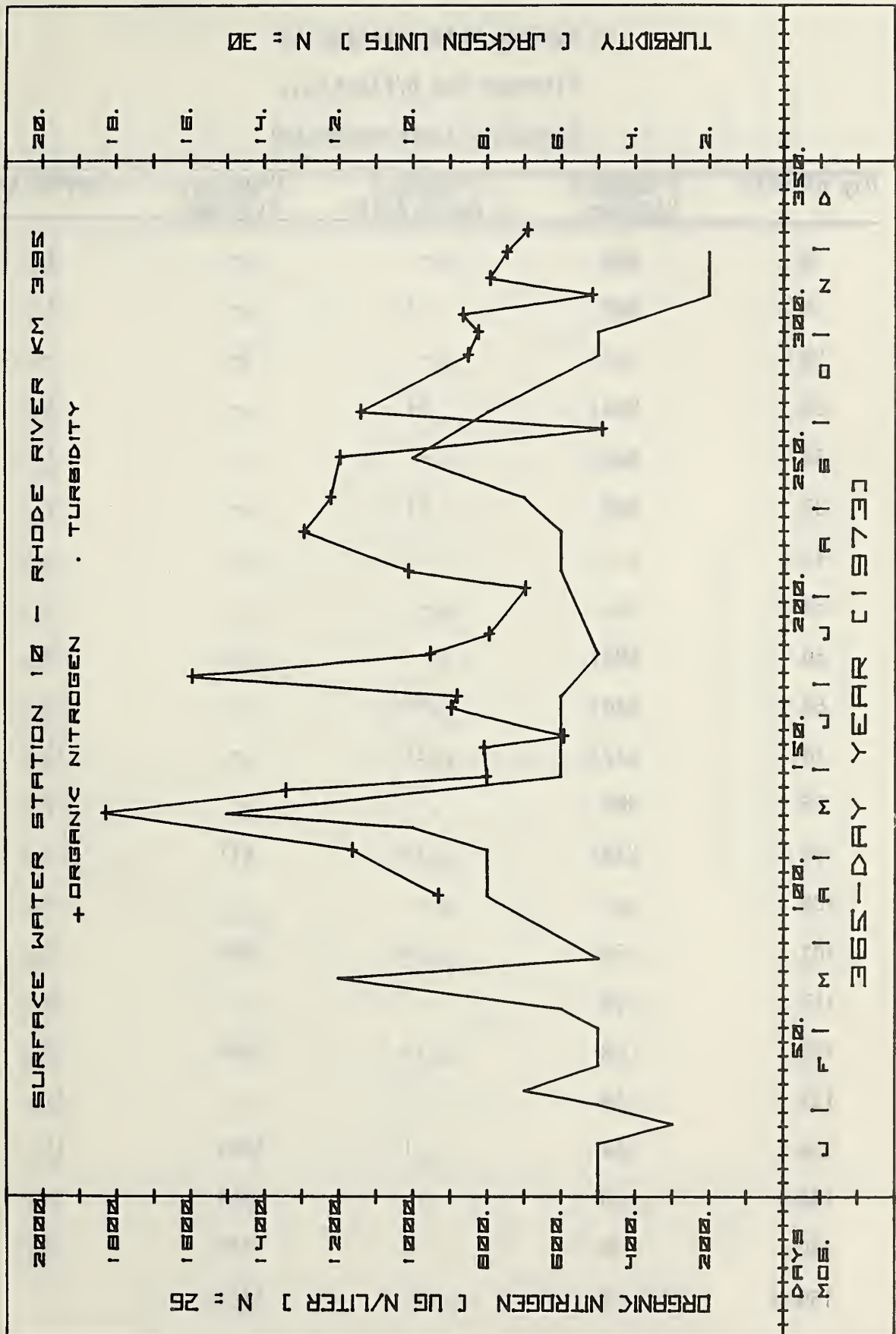
Surface Station 10 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	3	40	893	6
173	11	-	895	-
177	20	12	879	6
184	13	-	1593	-
192	15	37	952	5
199	8	-	793	-
215	22	-	696	-
221	2	13	1011	6
235	4	22	1293	6
247	5	40	1221	7
261	4	46	1196	10
271	4	-	489	-
277	11	42	1140	8
297	5	83	851	5
305	0	37	824	5
311	3	-	865	-
318	7	39	516	2
324	11	-	792	-
333	2	26	747	2
341	12	-	691	-
347	-	-	-	-
	N=41	N=23	N=26	N=30





Surface Water Station 11

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

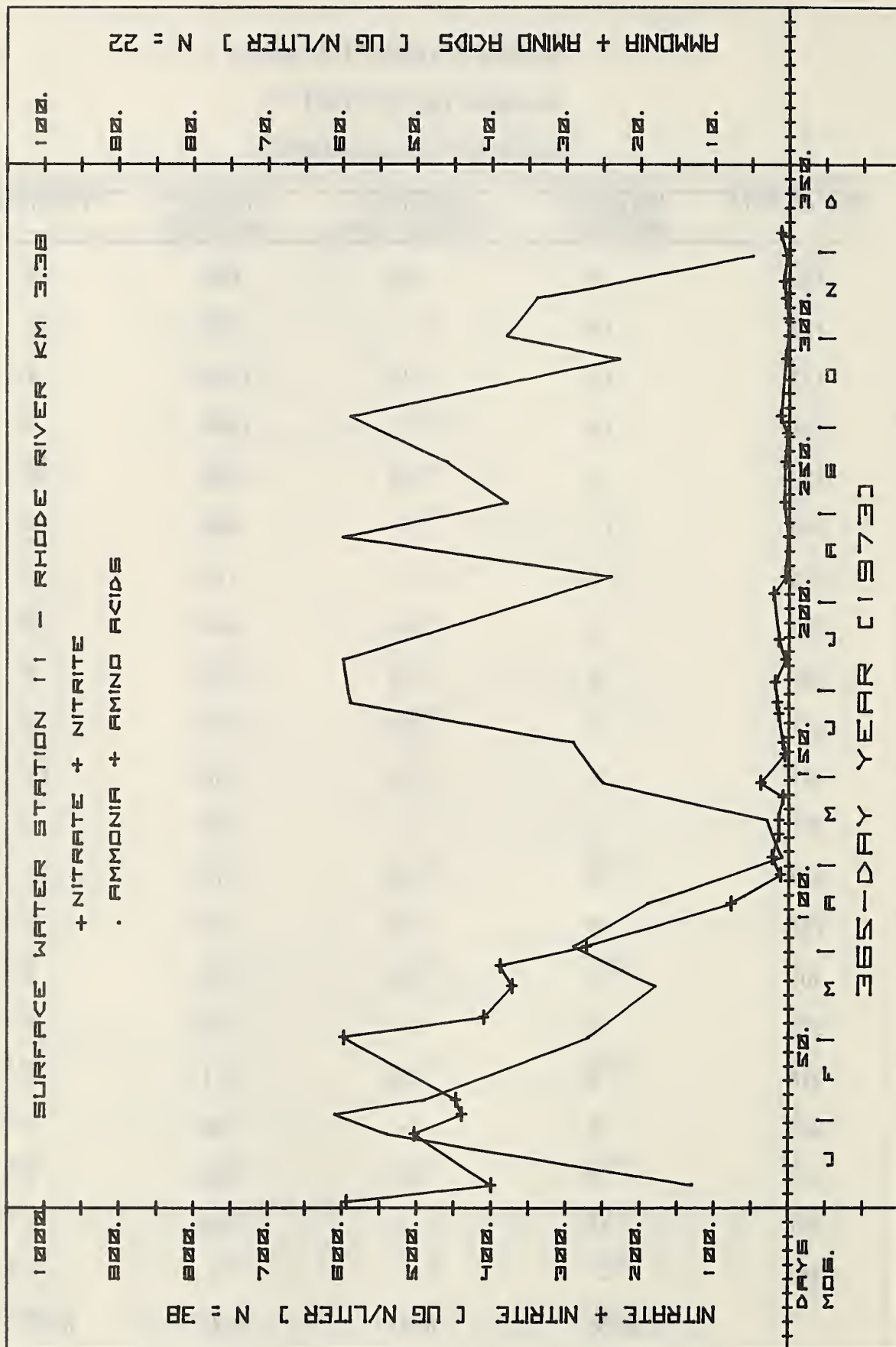
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	594	-	-	4
8	400	13	-	4
19	-	-	-	-
26	503	54	-	3
33	439	-	-	7
38	447	61	-	5
47	-	-	-	-
52	-	-	-	-
60	598	-	-	3
67	410	49	-	5
78	372	27	-	11
85	388	-	-	6
92	272	18	677	-
103	-	-	-	-
107	78	29	838	7
117	12	-	-	8
123	23	19	1162	6
131	14	-	-	11
136	14	1	1789	11
144	8	-	1614	-
149	38	3	646	5
159	6	-	1140	-

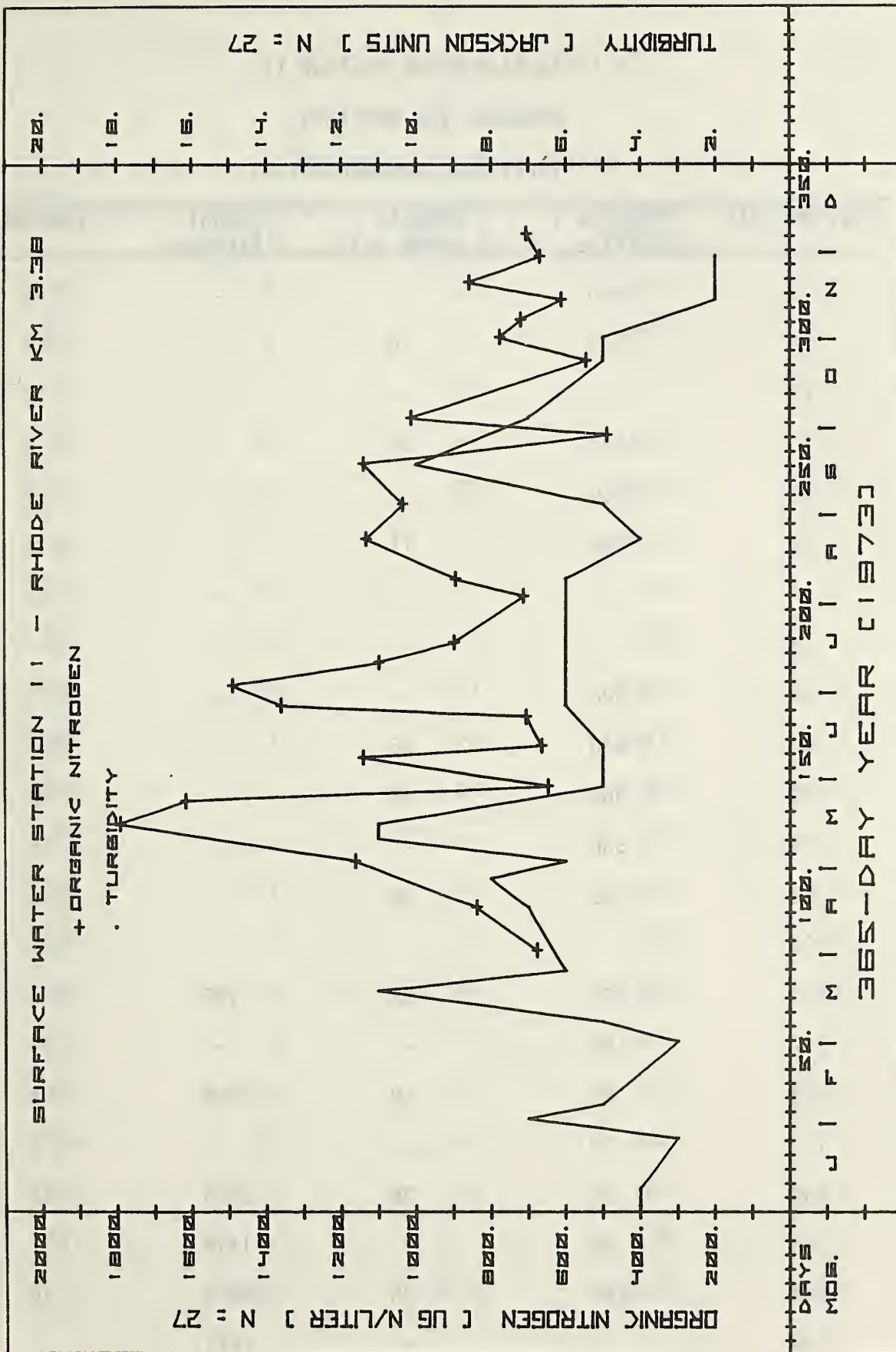
Surface Station 11 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	8	25	664	5
173	14	-	705	-
177	16	29	1359	6
184	19	-	1489	-
192	5	59	1098	6
199	14	-	898	-
215	1	-	713	-
221	5	60	894	6
235	2	24	1133	4
247	7	60	1035	5
261	6	38	1140	10
271	3	-	489	-
277	12	46	1012	7
297	5	59	545	5
305	2	23	776	5
311	2	-	720	-
318	5	38	611	2
324	8	-	858	-
333	4	34	669	2
341	12	-	705	-
347	-	-	-	-
	N=38	N=22	N=27	N=27





Surface Water Station 12

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

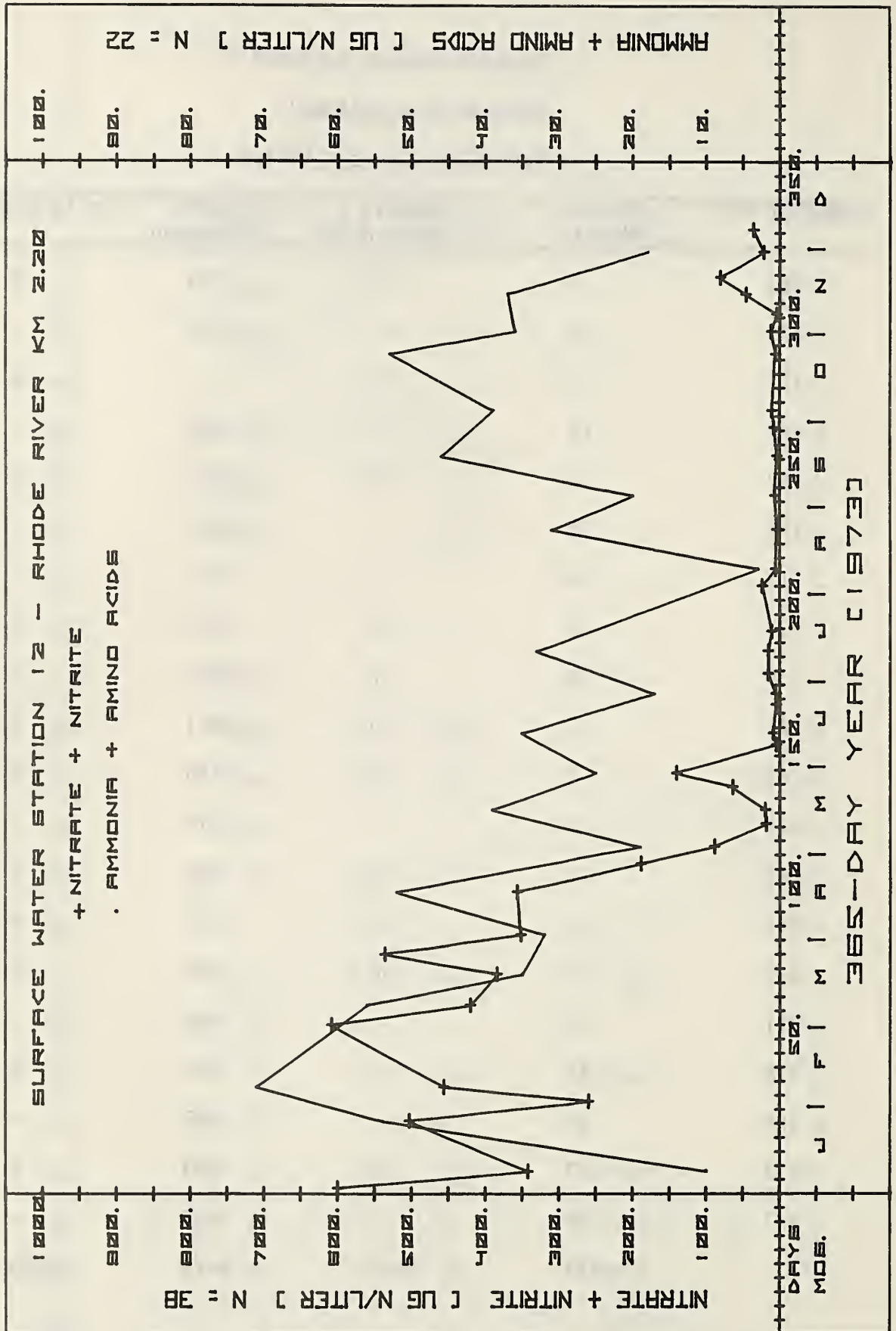
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	600	-	-	4
8	342	10	-	4
19	-	-	-	-
26	503	54	-	4
33	260	-	-	3
38	456	71	-	4
47	-	-	-	-
52	-	-	-	-
60	608	-	-	3
67	420	56	-	4
78	384	35	-	10
85	536	-	-	5
92	352	32	-	6
103	-	-	-	-
107	357	52	769	7
117	189	-	-	7
123	89	19	1046	6
131	19	-	-	8
136	20	39	1525	12
144	64	-	1414	-
149	140	25	2679	10
159	5	-	871	-

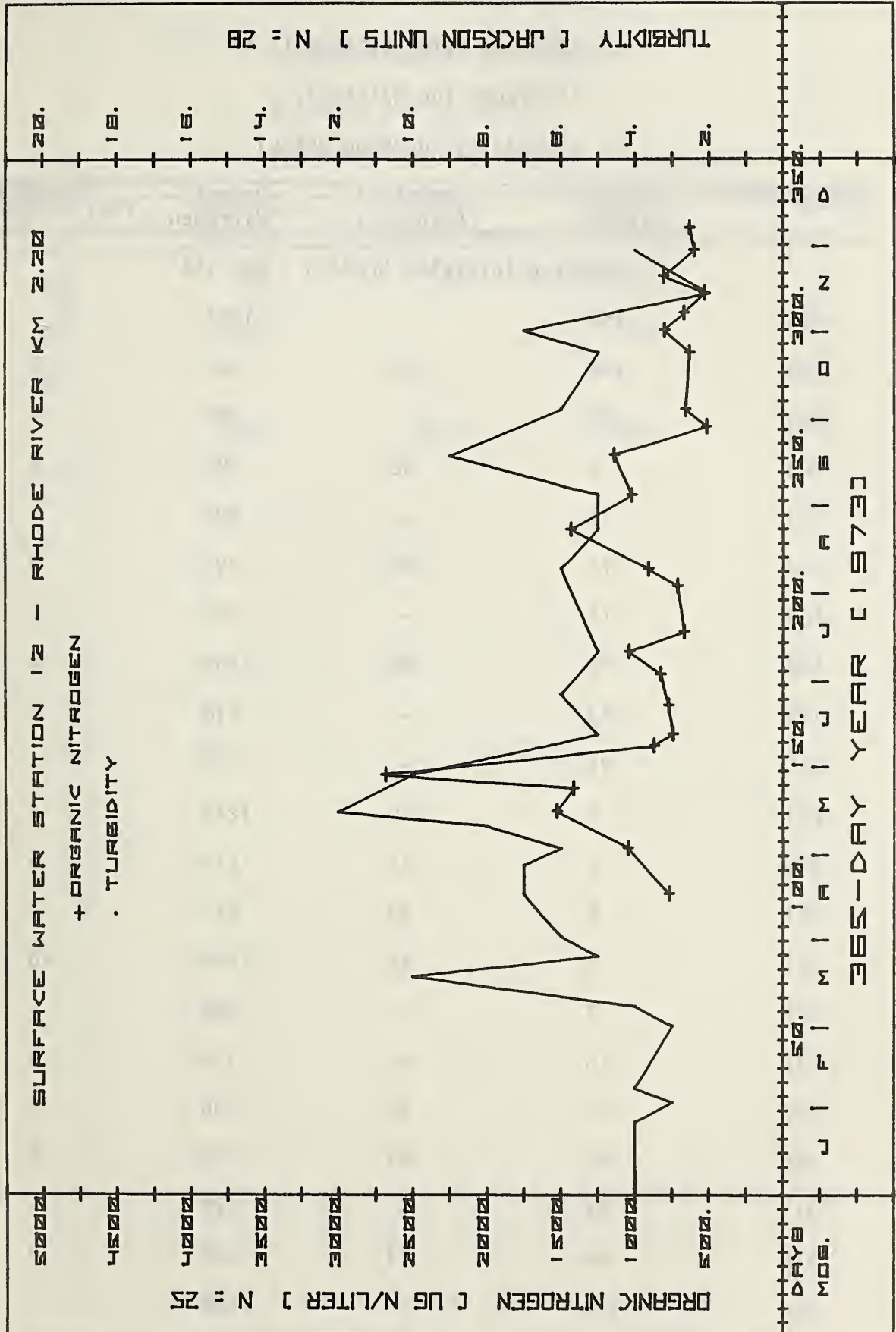
Surface Station 12 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	9	35	743	5
173	5	-	774	-
177	5	17	-	6
184	16	-	826	-
192	16	33	1040	5
199	11	-	667	-
215	24	-	713	-
221	6	3	910	6
235	4	31	1433	5
247	7	20	1021	5
261	4	46	1140	9
271	8	-	515	-
277	11	39	658	6
297	6	53	632	5
305	12	36	800	7
311	4	-	669	-
318	46	37	531	2
324	81	-	807	-
333	22	18	603	4
341	36	-	632	-
	N=38	N=22	N=25	N=28





Surface Water Station 12.5

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

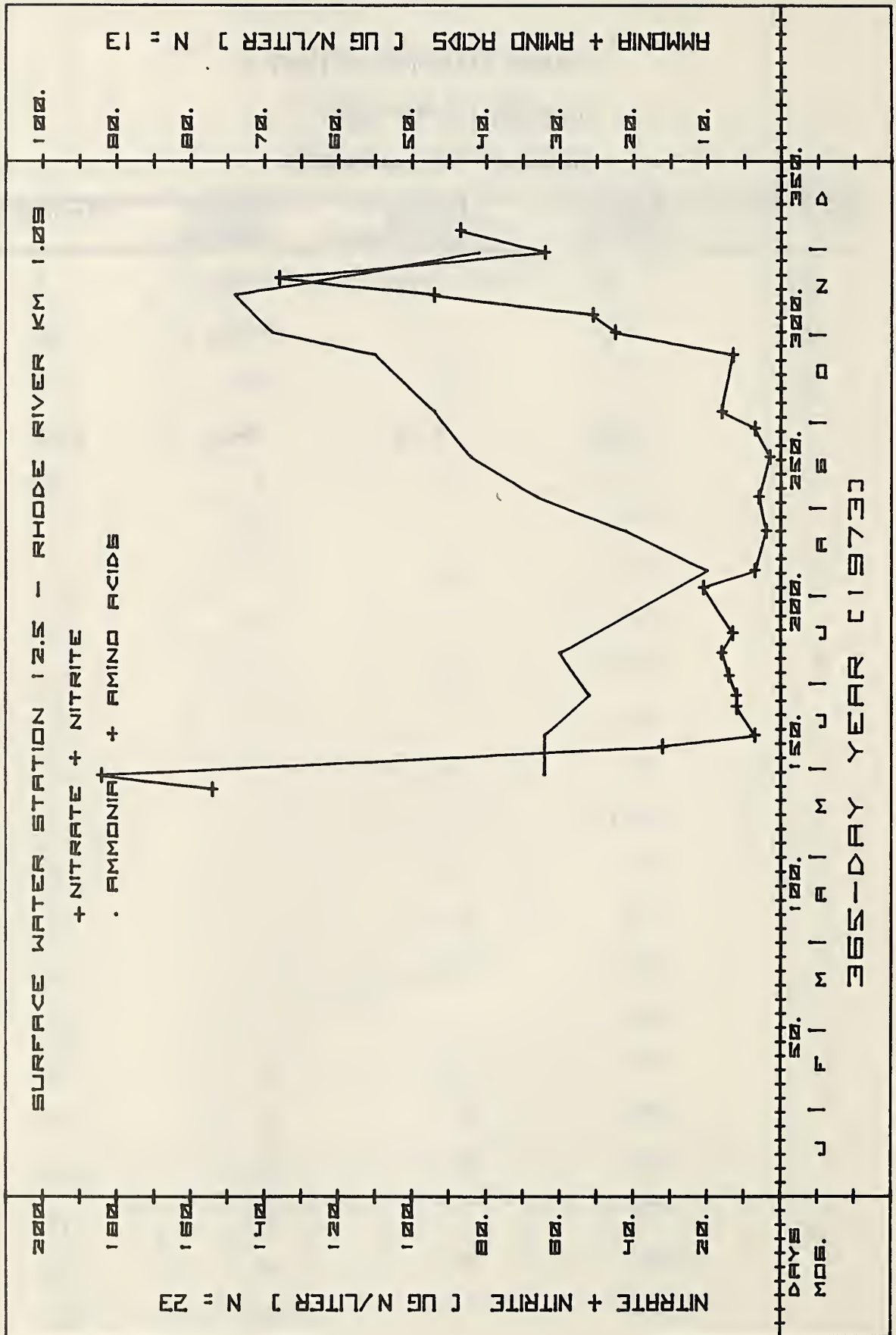
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
Sampling initiated 5/24/73 - Day 144				
144	154	-	1043	-
149	184	32	602	4
159	32	-	850	-
163	7	32	593	4
173	12	-	495	-
177	12	26	999	9
184	14	-	995	-
192	16	30	1359	5
199	13	-	618	-
215	21	-	722	-
221	7	10	1272	6
235	4	21	673	5
247	6	33	871	7
261	3	42	1025	10
271	7	-	468	-
277	16	47	729	5
297	13	55	596	5
305	45	69	720	8
311	51	-	679	-
318	94	74	509	3
324	136	-	582	-

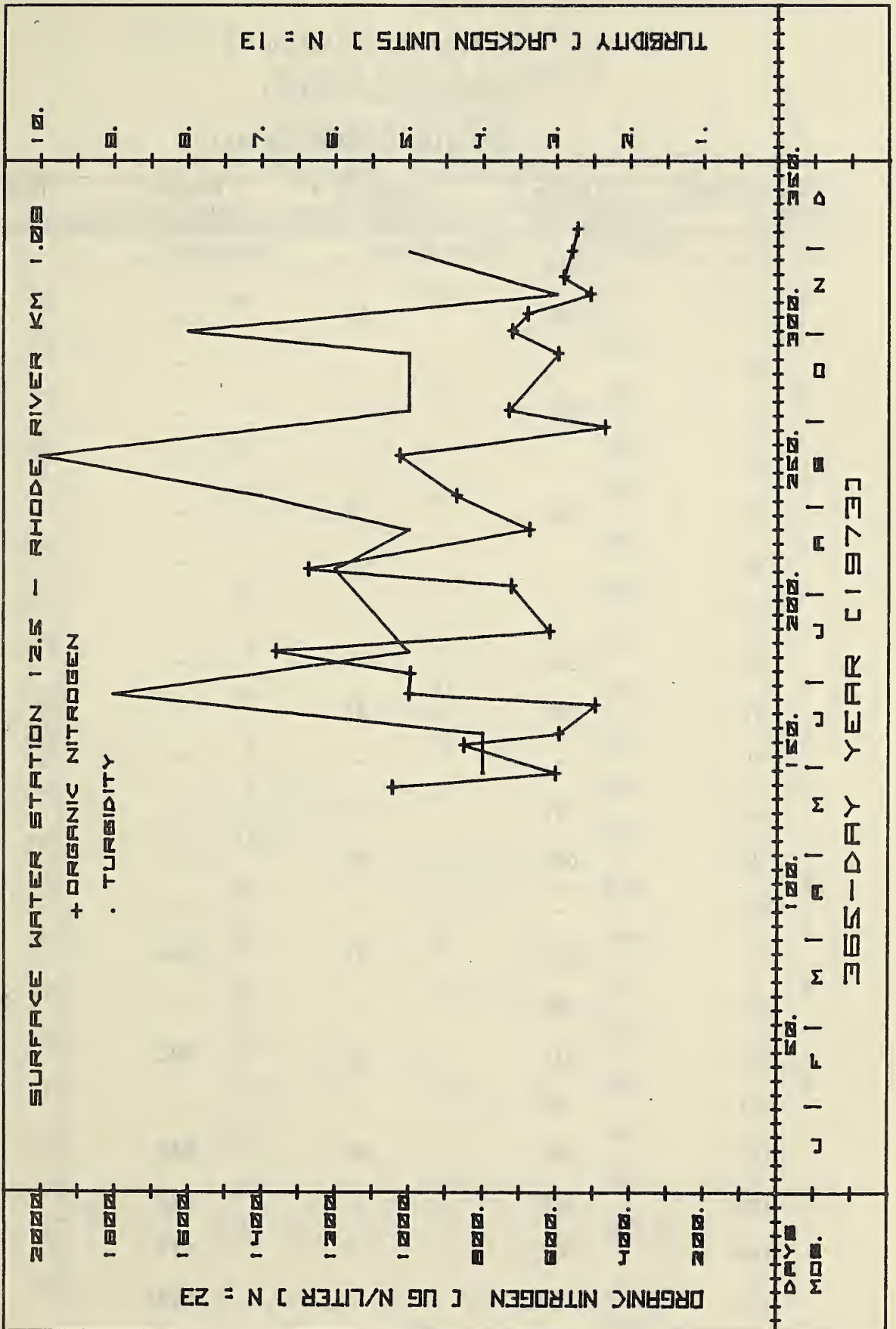
Surface Station 12.5 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
333	64	41	560	5
341	87	-	545	-
347	-	-	-	-
	N=23	N=13	N=23	N=13





Surface Water Station 13

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

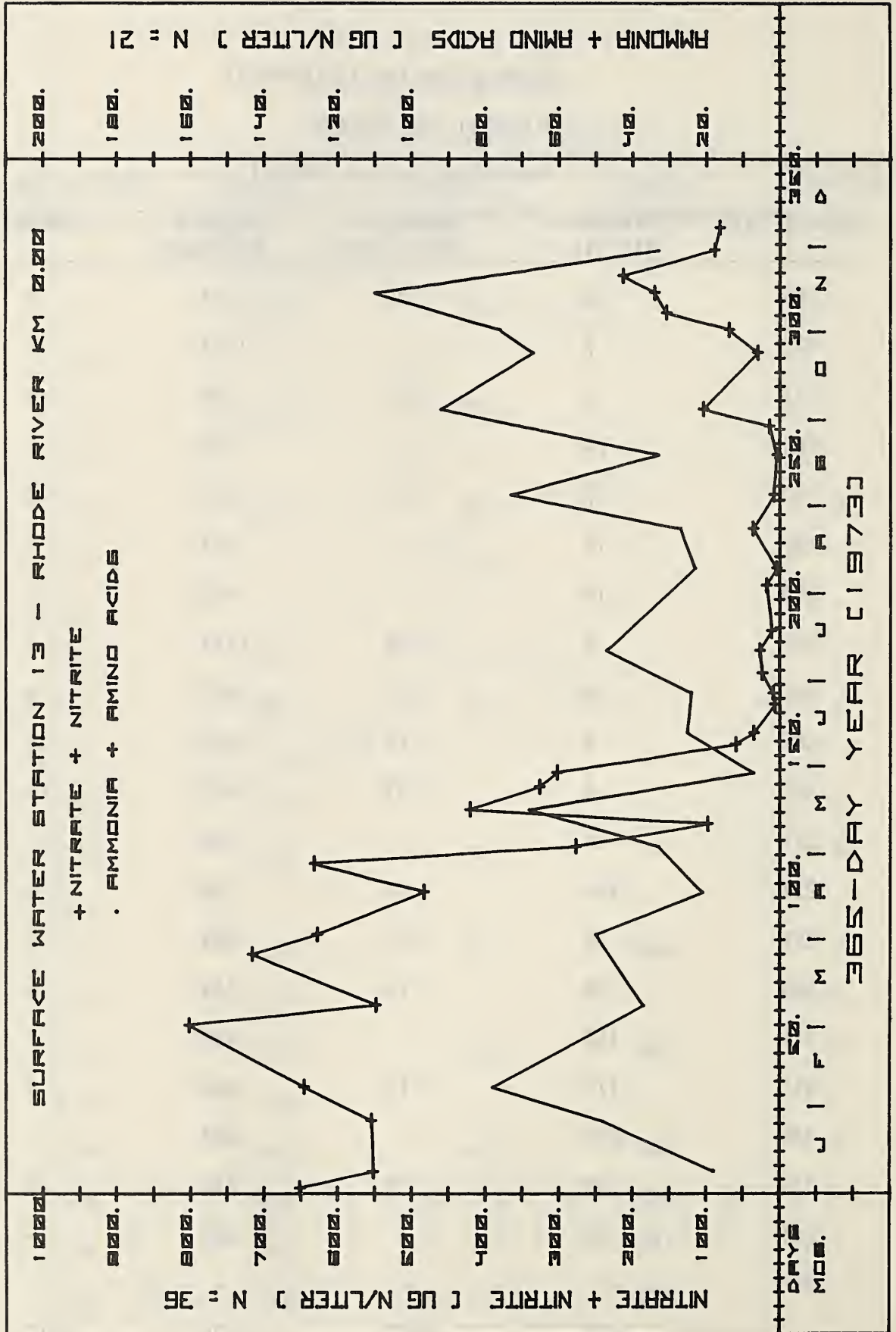
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	652	-	-	3
8	552	18	-	3
19	-	-	-	-
26	554	48	-	2
33	-	-	-	-
38	646	78	-	4
47	-	-	-	-
52	-	-	-	-
60	802	-	-	3
67	548	37	-	2
78	-	-	-	-
85	716	-	-	4
92	628	50	-	8
103	-	-	-	-
107	483	21	684	7
117	632	-	-	25
123	277	33	892	10
131	98	-	-	11
136	420	68	649	6
144	326	-	686	-
149	302	7	617	4
159	60	-	694	-

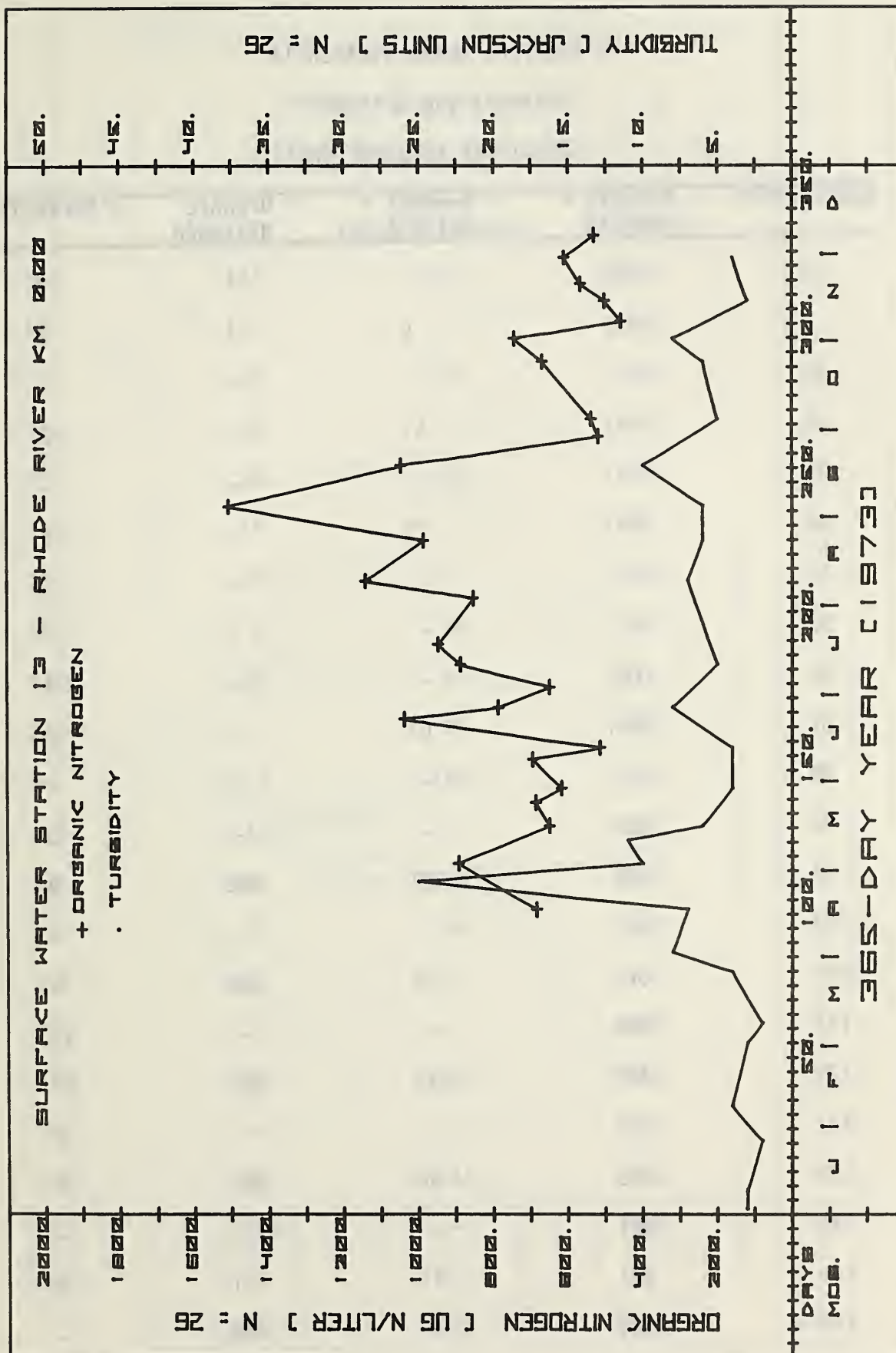
Surface Station 13 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	35	25	514	4
173	7	-	1037	-
177	9	24	786	8
184	24	-	650	-
192	27	47	887	5
199	11	-	947	-
215	18	-	853	-
221	4	23	1141	7
235	36	27	987	6
247	8	73	1507	6
261	4	33	1047	10
271	14	-	519	-
277	104	92	538	5
297	30	67	669	6
305	69	76	744	8
311	154	-	458	-
318	170	110	502	3
324	213	-	567	-
333	89	33	611	4
341	82	-	531	-
347	-	-	-	-
	N=36	N=21	N=26	N=26





Surface Water Station 14

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

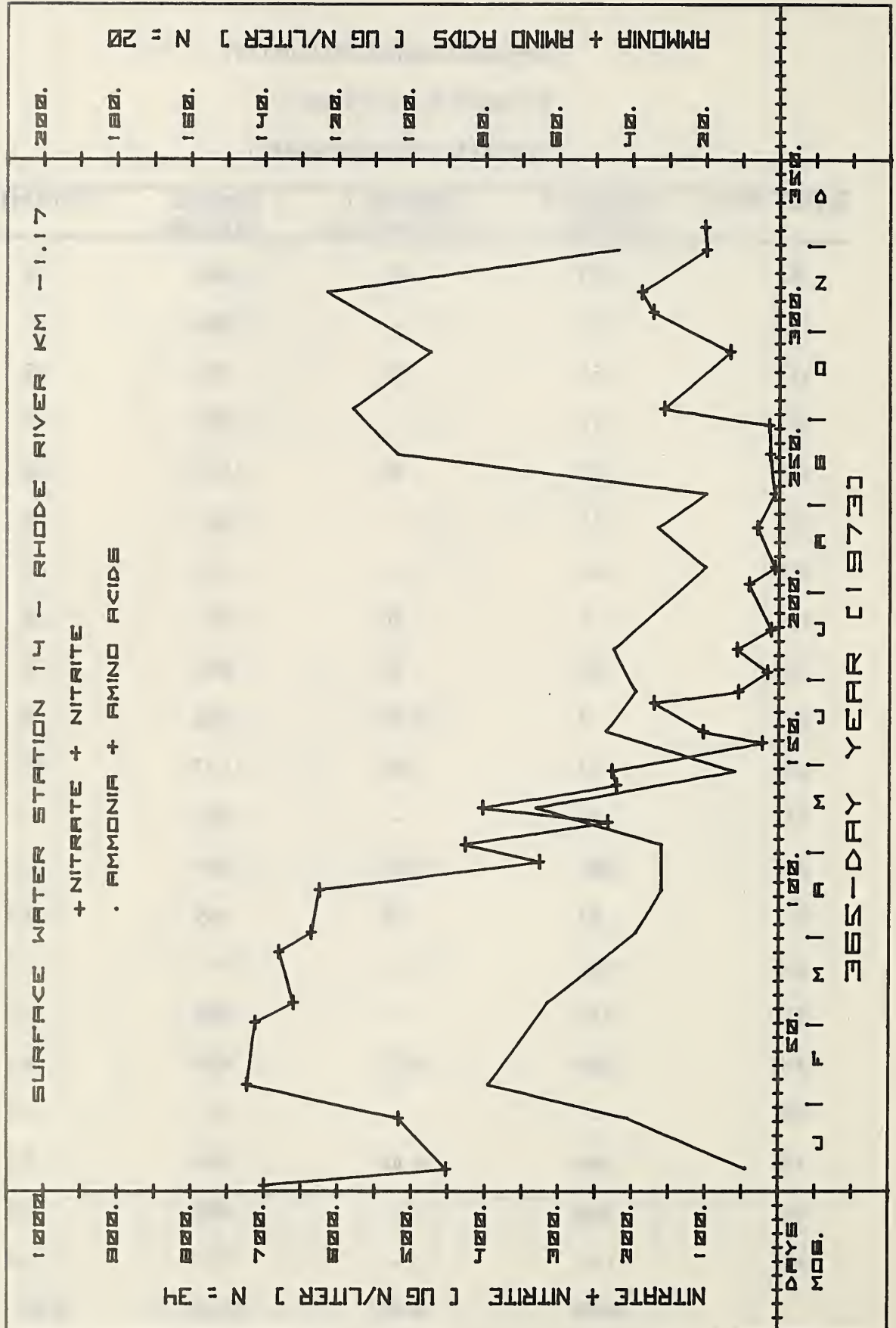
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	700	-	-	3
8	452	9	-	3
19	-	-	-	-
26	517	41	-	2
33	-	-	-	-
38	723	79	-	3
47	-	-	-	-
52	-	-	-	-
60	712	-	-	4
67	660	63	-	2
78	-	-	-	-
85	680	-	-	3
92	636	39	685	9
103	-	-	-	-
107	625	32	669	8
117	326	-	-	31
123	427	32	831	12
131	233	-	-	7
136	403	66	981	5
144	221	-	1221	-
149	227	12	771	5
159	23	-	758	-

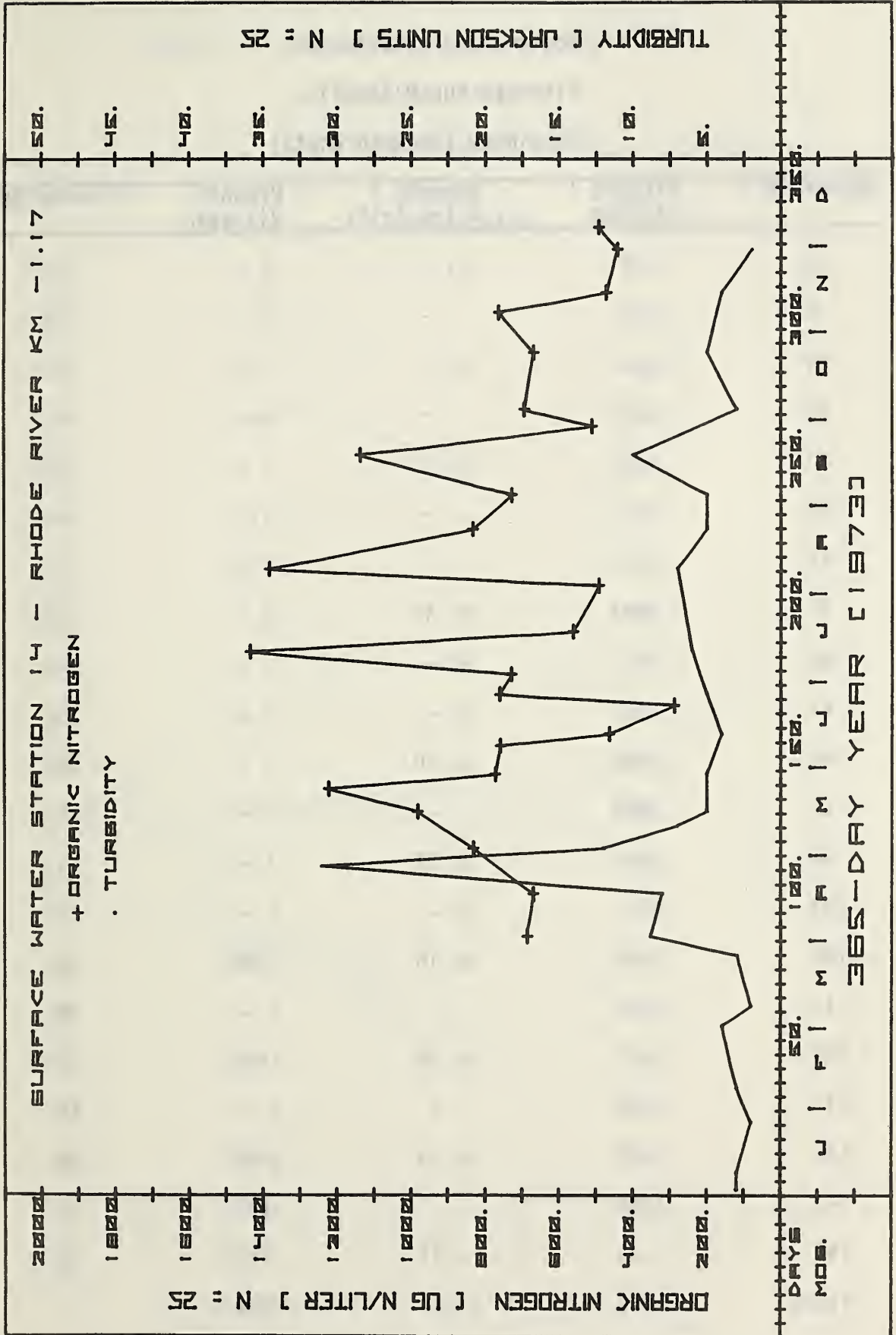
Surface Station 14 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	103	47	464	4
173	170	-	288	-
177	55	39	759	5
184	16	-	728	-
192	57	45	1432	6
199	11	-	561	-
215	41	-	492	-
221	6	20	1381	7
235	30	33	833	5
247	7	20	728	5
261	13	104	1137	10
271	14	-	511	-
277	157	116	694	3
297	67	95	669	5
305	-	-	-	-
311	172	-	764	-
318	188	123	473	4
324	-	-	-	-
333	100	44	443	2
341	102	-	494	-
347	-	-	-	-
	N=34	N=20	N=25	N=25





Bottom Water Station 10

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

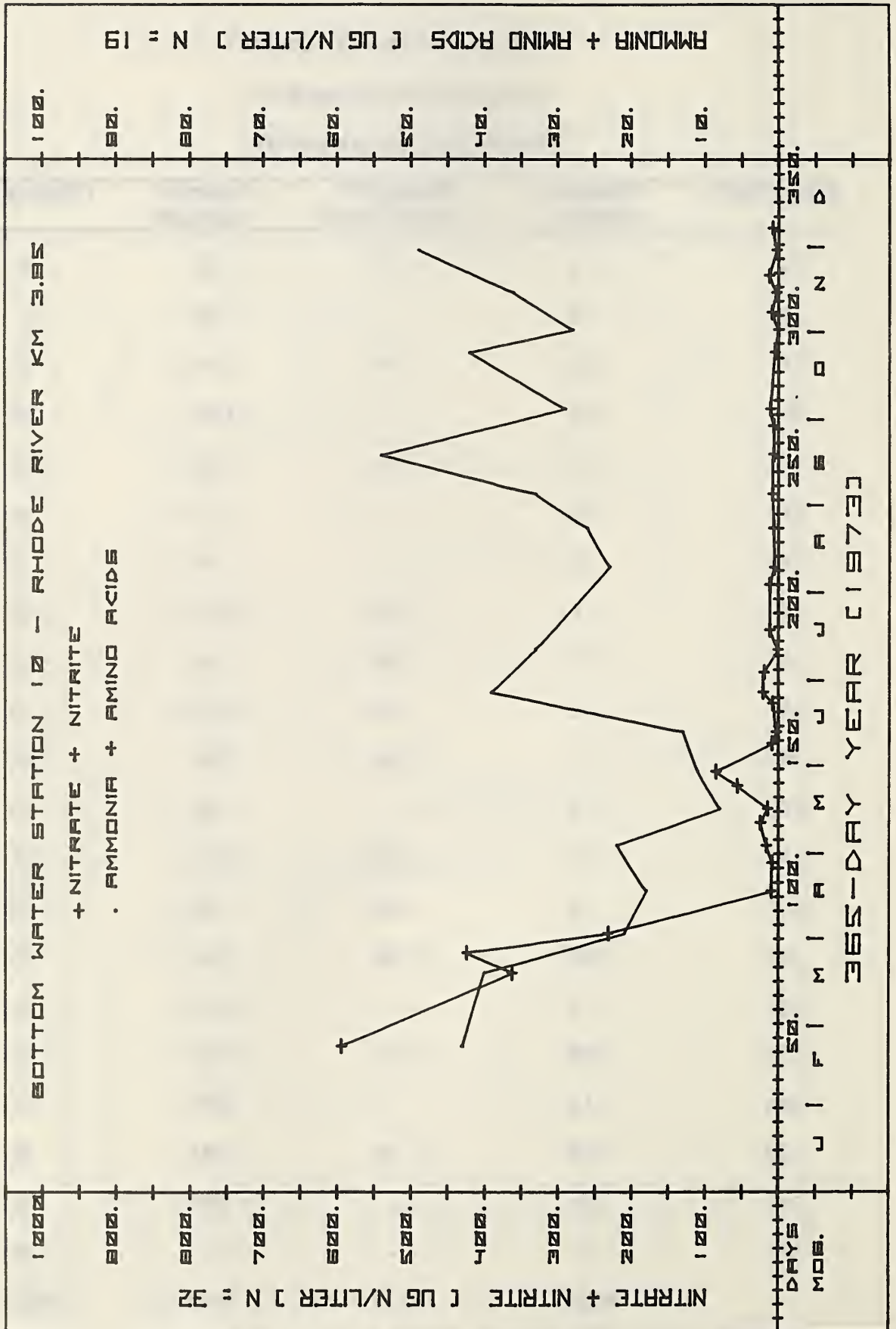
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	-	-	-	-
8	-	-	-	-
19	-	-	-	-
26	-	-	-	-
33	-	-	-	-
38	-	-	-	-
47	-	-	-	-
52	594	43	-	5
60	-	-	-	-
67	-	-	-	-
78	362	40	-	13
85	424	-	-	8
92	232	21	-	-
103	-	-	-	-
107	10	18	946	8
117	9	-	-	9
123	17	22	992	7
131	25	-	-	16
136	15	8	3562	43
144	56	-	657	-
149	85	11	763	7
159	9	-	736	-

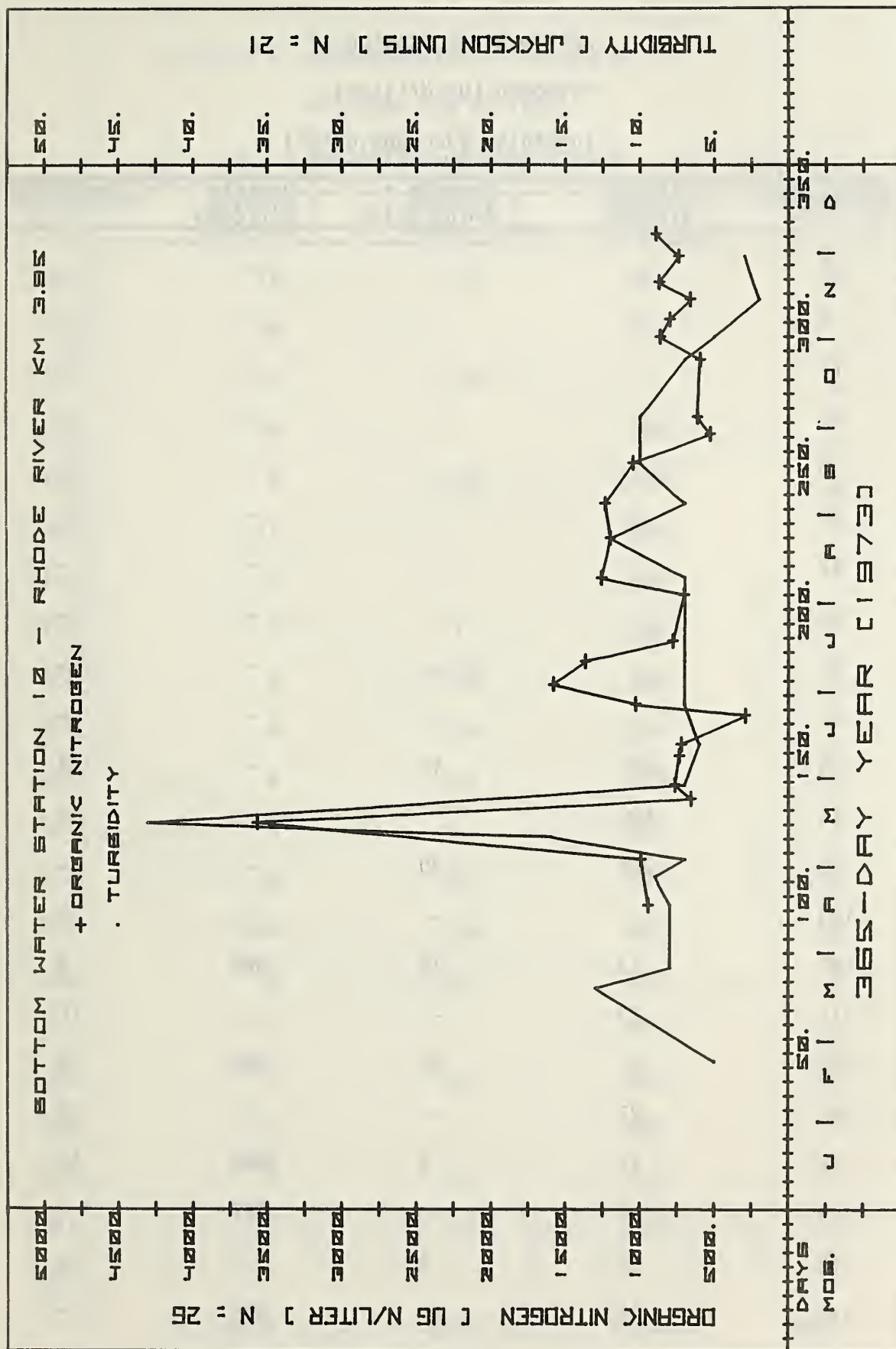
Bottom Station 10 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	3	13	721	6
173	8	-	292	-
177	21	39	1026	7
184	20	-	1580	-
192	1	33	1367	7
199	12	-	779	-
215	12	-	705	-
221	6	23	1258	7
235	7	26	1200	12
247	8	33	1235	7
261	7	54	1047	10
271	7	-	528	-
277	11	29	616	10
297	5	42	596	7
305	0	28	864	5
311	9	-	800	-
318	3	36	662	2
324	13	-	872	-
333	3	49	742	3
341	8	-	894	-
347	-	-	-	-
	N=32	N=19	N=26	N=21





Bottom Water Station 11

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

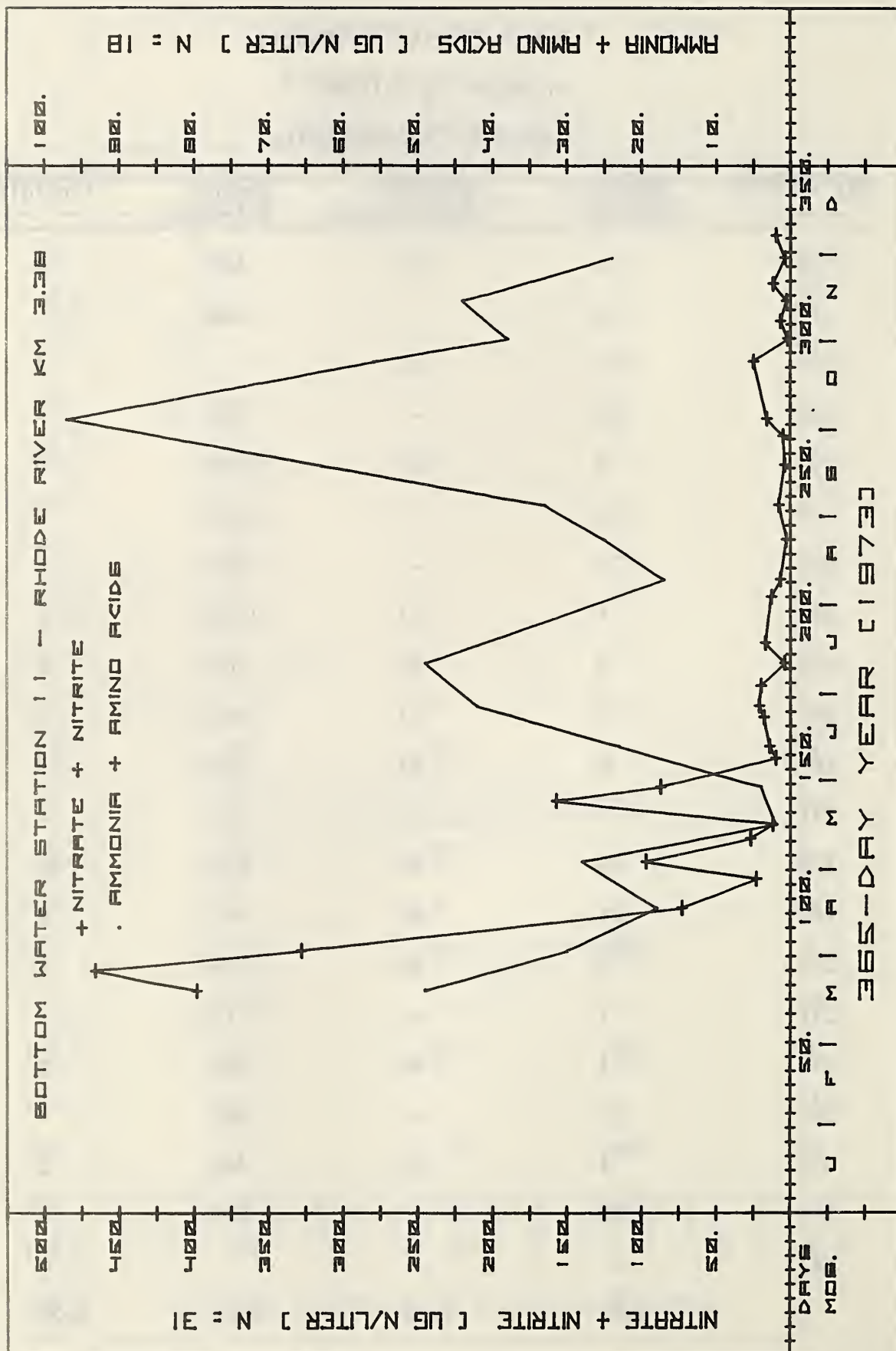
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	-	-	-	-
8	-	-	-	-
19	-	-	-	-
26	-	-	-	-
33	-	-	-	-
38	-	-	-	-
47	-	-	-	-
52	-	-	-	-
60	-	-	-	-
67	-	-	-	-
78	398	49	-	14
85	466	-	-	8
92	328	30	-	-
103	-	-	-	-
107	73	18	869	8
117	23	-	-	10
123	97	28	954	6
131	27	-	-	14
136	12	2	1698	18
144	157	-	557	-
149	87	4	-	5
159	10	-	899	-

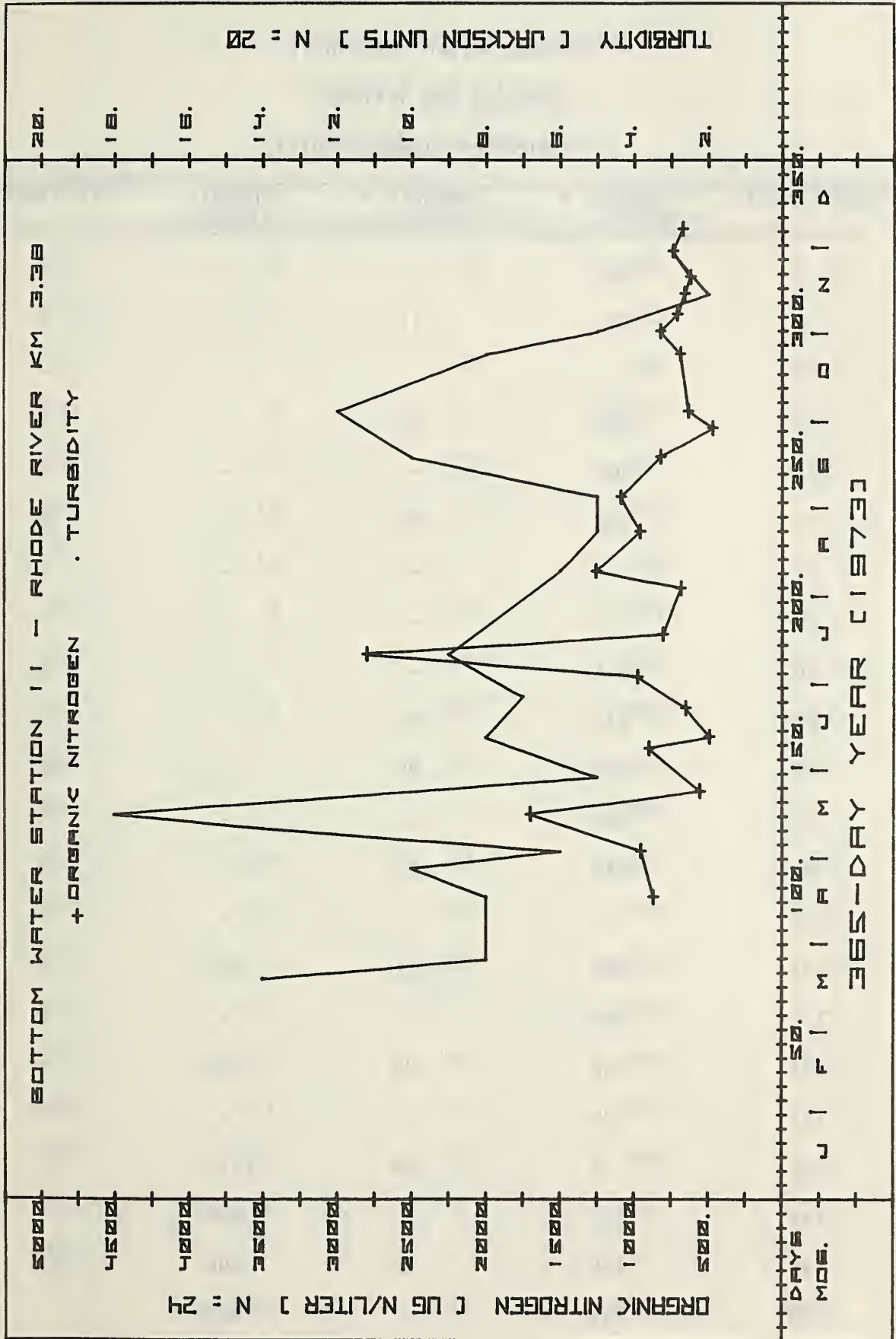
Bottom Station 11 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	14	23	493	8
173	18	-	654	-
177	21	42	-	7
184	20	-	976	-
192	4	49	2799	9
199	17	-	807	-
215	13	-	687	-
221	7	17	1258	6
235	3	25	960	5
247	8	33	1092	5
261	4	63	823	10
271	5	-	472	-
277	16	97	637	12
297	25	56	691	8
305	2	38	824	5
311	7	-	713	-
318	3	44	662	2
324	12	-	625	-
333	4	24	742	3
341	10	-	676	-
347	-	-	-	-
	N=31	N=18	N=24	N=20





Bottom Water Station 12

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

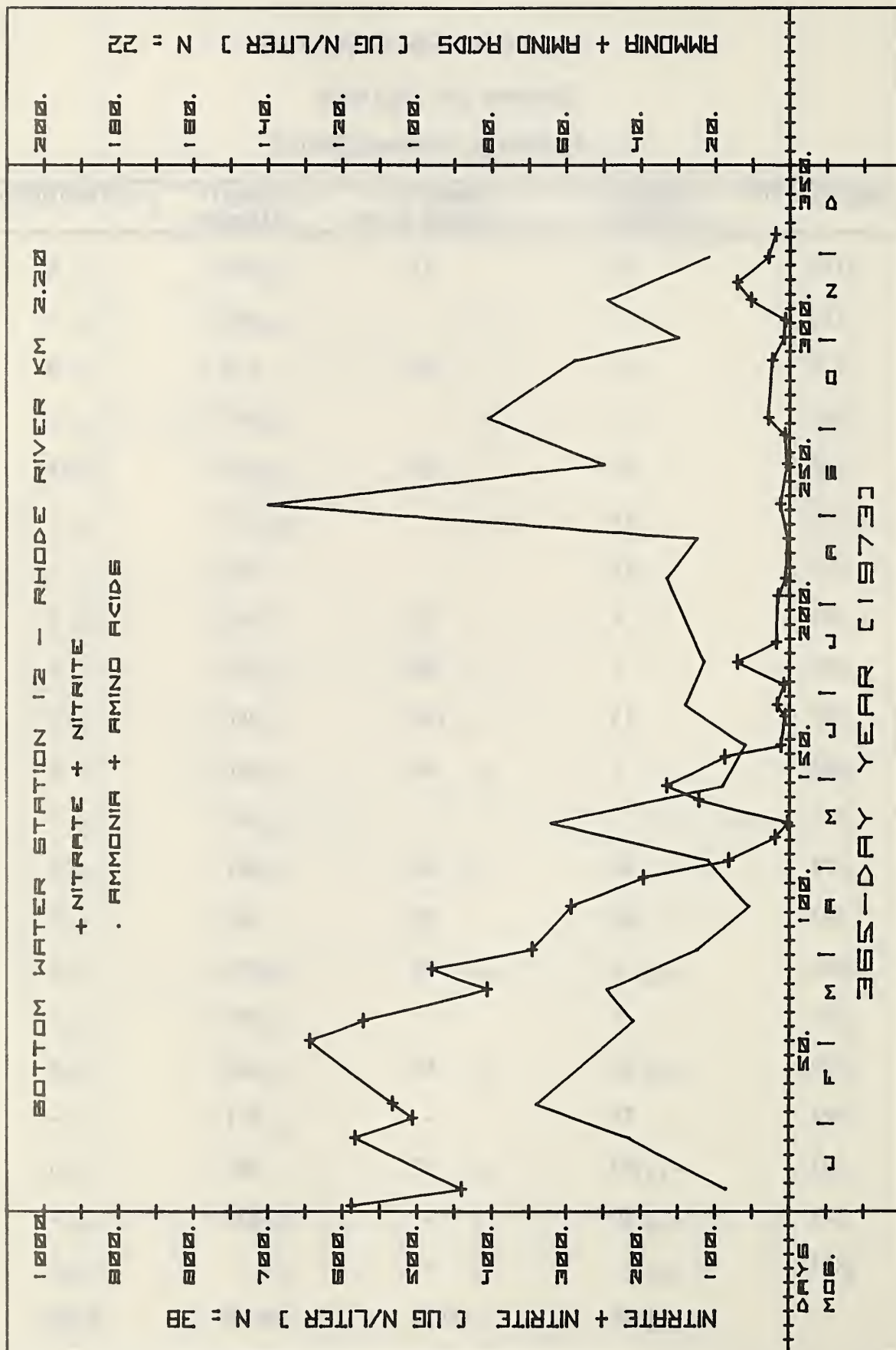
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	588	-	-	4
8	440	17	-	4
19	-	-	-	-
26	583	43	-	3
33	506	-	-	-
38	533	68	-	10
47	-	-	-	-
52	-	-	-	-
60	644	-	-	5
67	572	42	-	-
78	406	49	-	28
85	480	-	-	5
92	346	25	-	7
103	-	-	-	-
107	294	11	807	7
117	197	-	-	8
123	82	22	892	6
131	20	-	-	12
136	3	64	1117	12
144	122	-	500	-
149	165	18	506	6
159	87	-	673	-

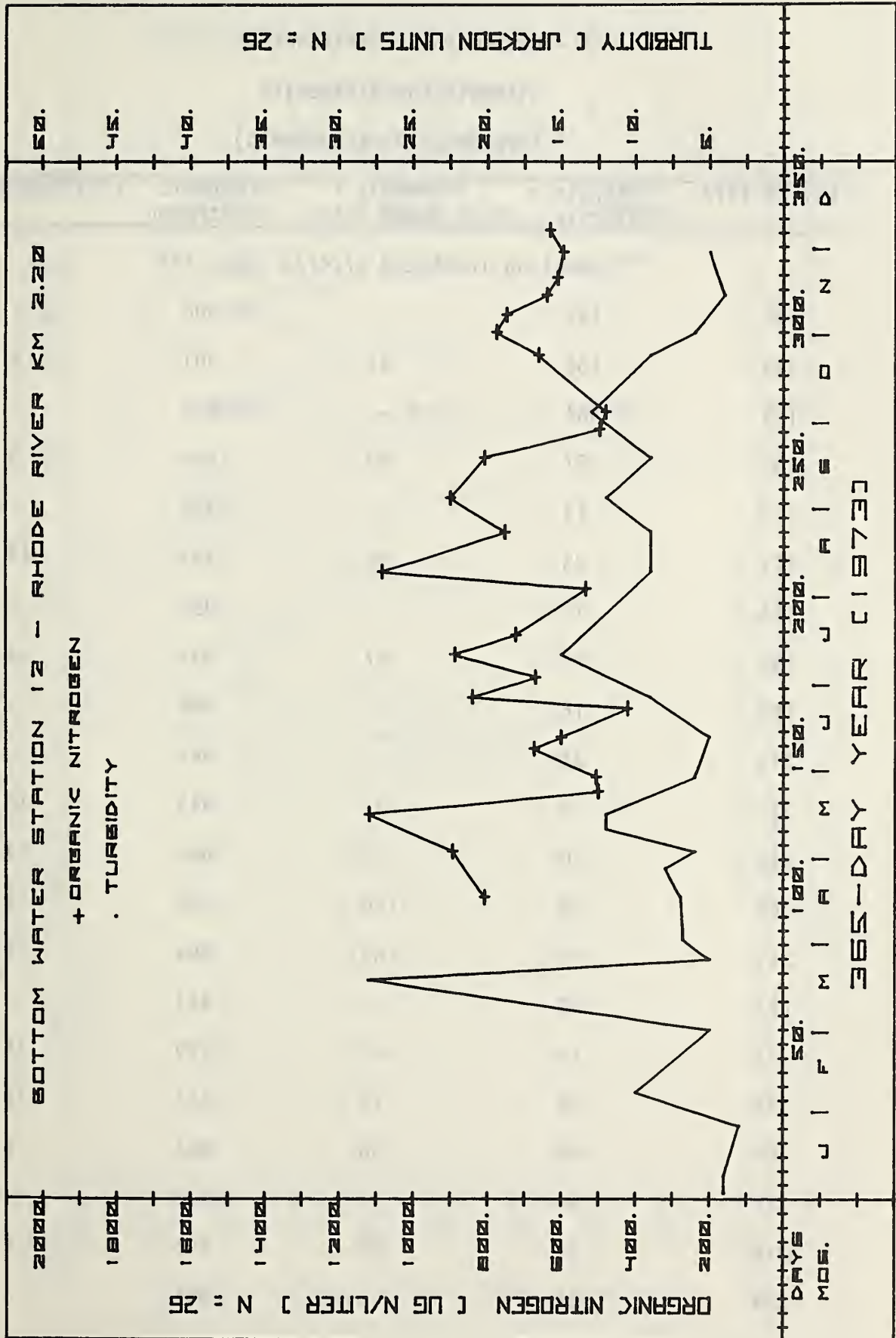
Bottom Station 12 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	12	12	600	5
173	7	-	422	-
177	17	28	839	9
184	8	-	670	-
192	70	23	887	15
199	18	-	723	-
215	16	-	535	-
221	6	33	1083	9
235	3	25	753	9
247	13	140	900	12
261	4	50	808	9
271	7	-	498	-
277	29	81	481	13
297	24	58	662	9
305	8	30	776	6
311	7	-	749	-
318	52	49	640	4
324	71	-	611	-
333	29	22	596	5
341	20	-	632	-
347	-	-	-	-
	N=38	N=22	N=26	N=26





Bottom Water Station 12.5

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

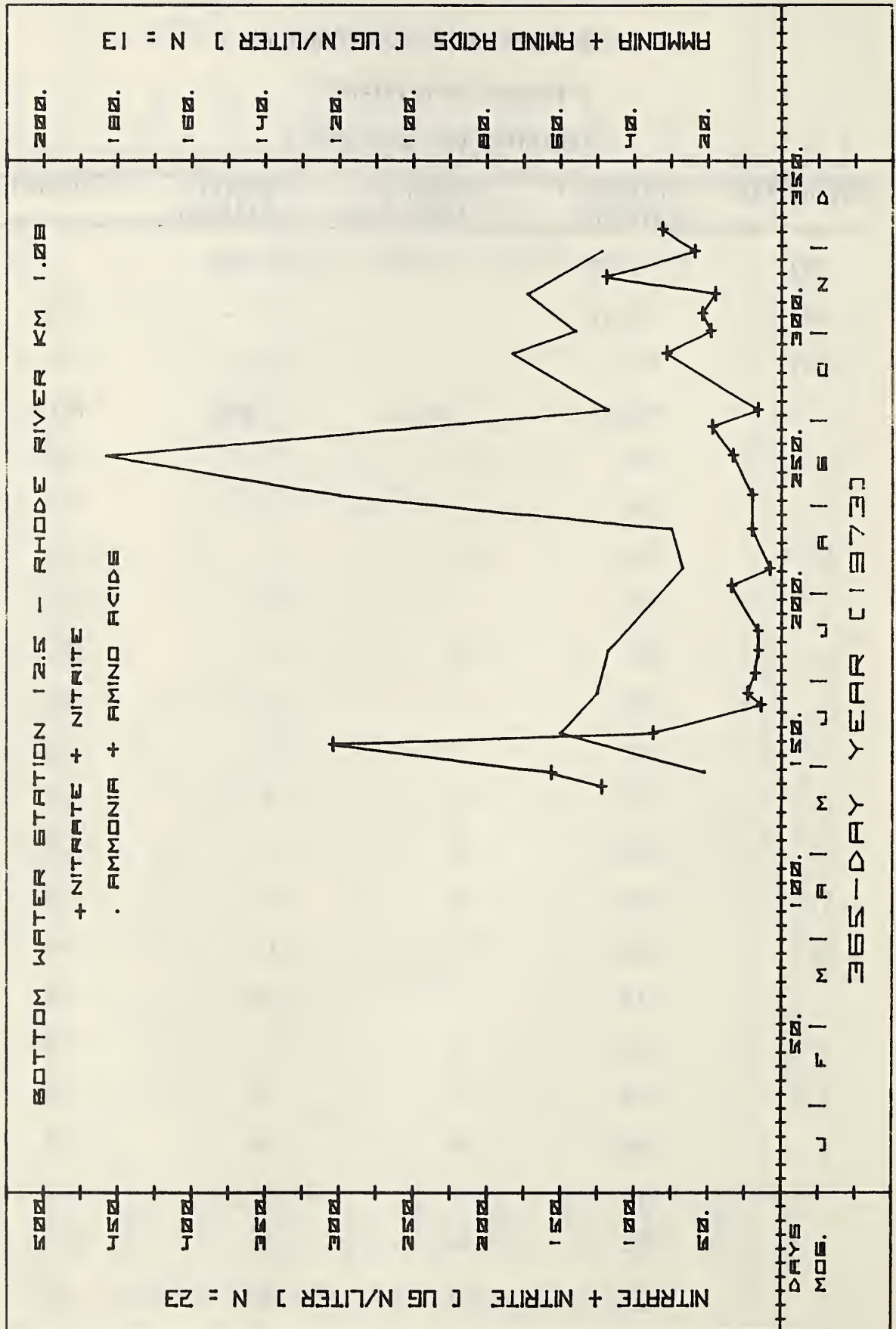
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
Sampling initiated 5/24/73 - Day 144				
144	122	-	500	-
149	156	21	301	6
159	304	-	524	-
163	87	60	450	5
173	14	-	426	-
177	23	50	793	14
184	18	-	995	-
192	16	47	632	14
199	16	-	688	-
215	34	-	361	-
221	8	27	945	10
235	20	30	680	14
247	20	120	792	17
261	33	183	554	10
271	47	-	413	-
277	16	47	729	15
297	78	73	414	10
305	48	56	664	8
311	54	-	735	-
318	45	69	596	4
324	119	-	451	-

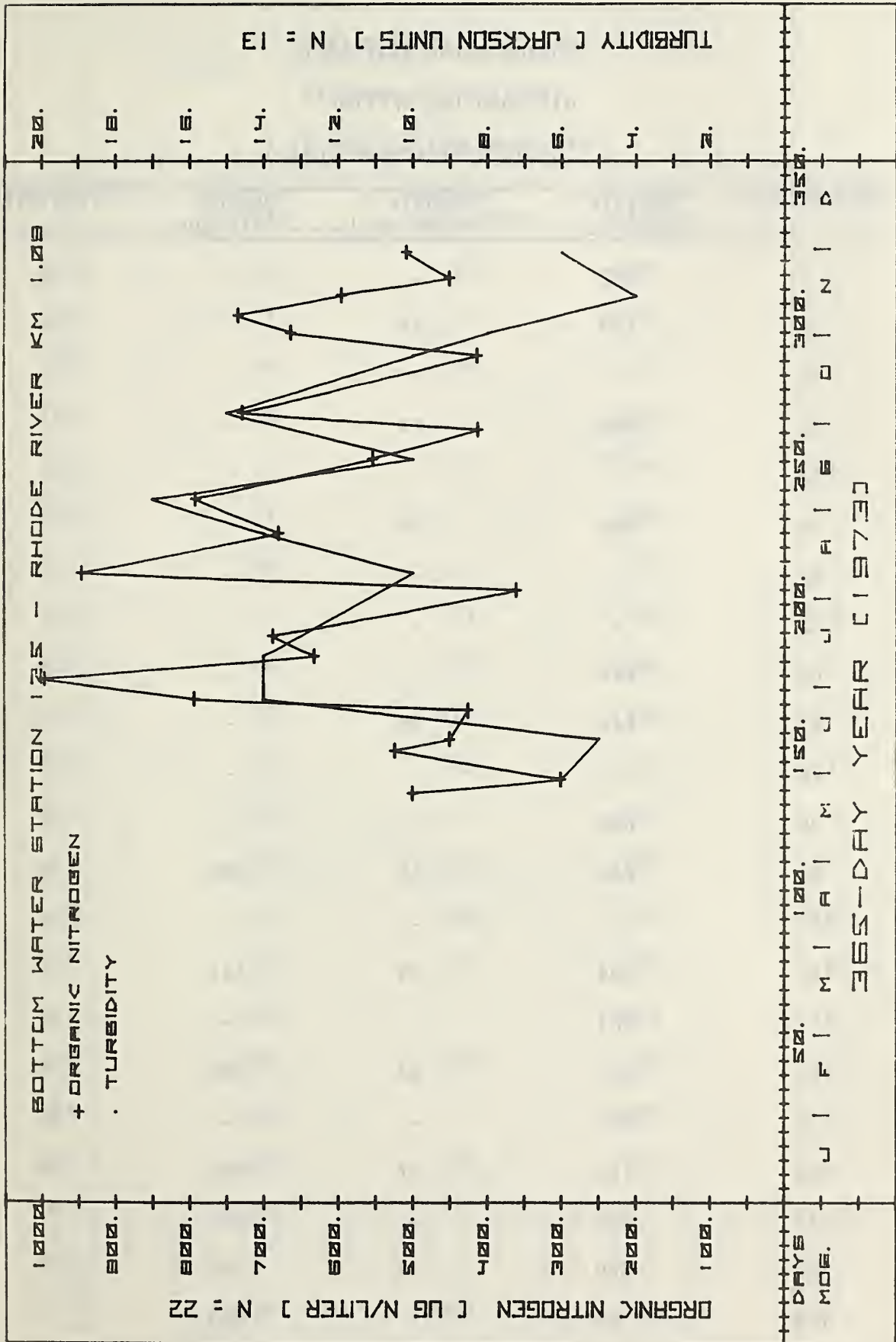
Bottom Station 12.5 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
333	59	49	509	6
341	81	-	-	-
347	-	-	-	-
	N=23	N=13	N=22	N=13





Bottom Water Station 13

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

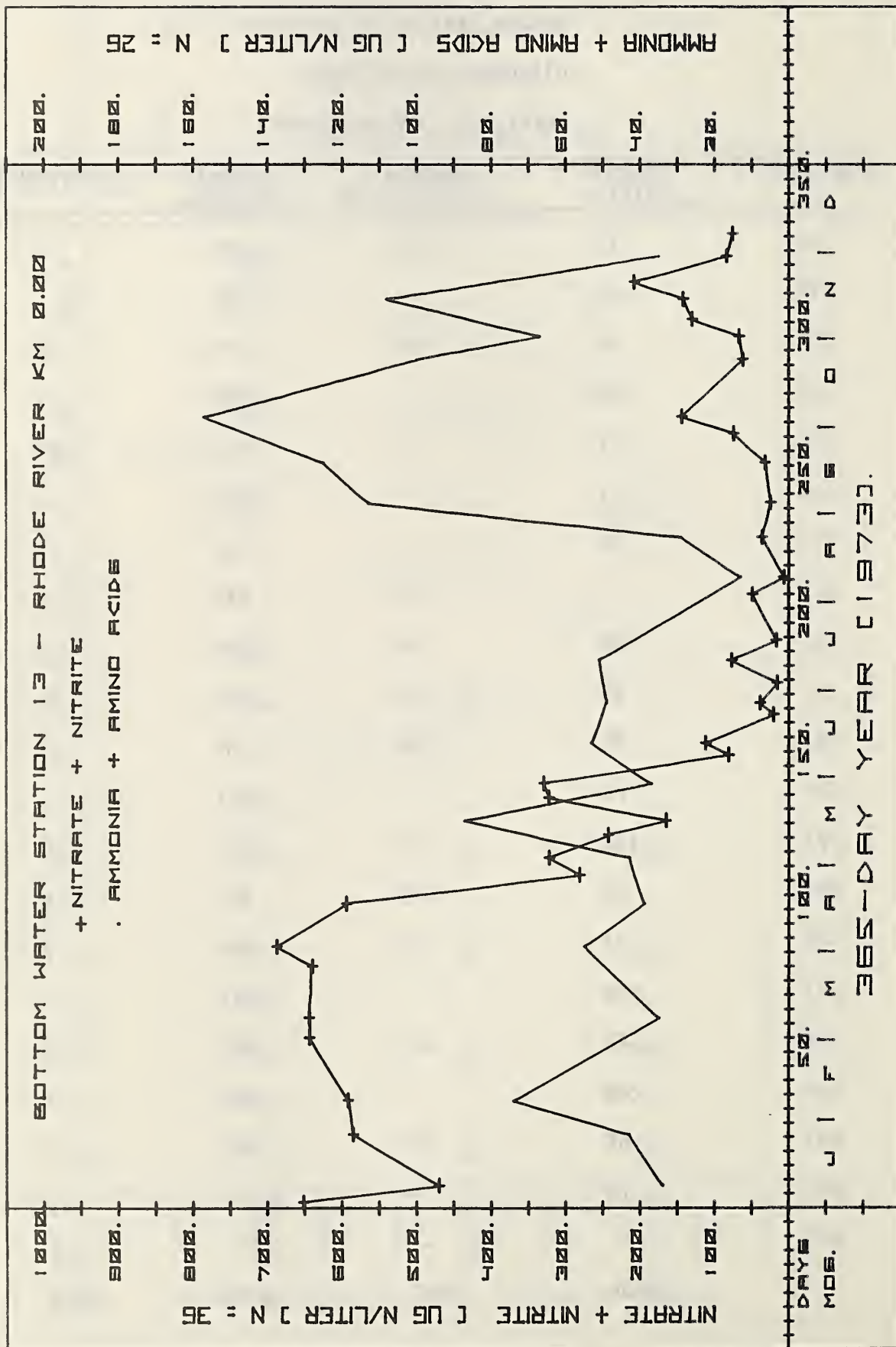
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	652	-	-	8
8	470	34	-	8
19	-	-	-	-
26	585	43	-	4
33	-	-	-	-
38	592	74	-	7
47	-	-	-	-
52	-	-	-	-
60	644	-	-	8
67	644	35	-	5
78	-	-	-	-
85	640	-	-	6
92	688	55	488	13
103	-	-	-	-
107	594	39	531	10
117	281	-	-	26
123	322	43	962	10
131	243	-	-	13
136	165	87	1094	10
144	322	-	600	-
149	329	37	389	8
159	81	-	680	-

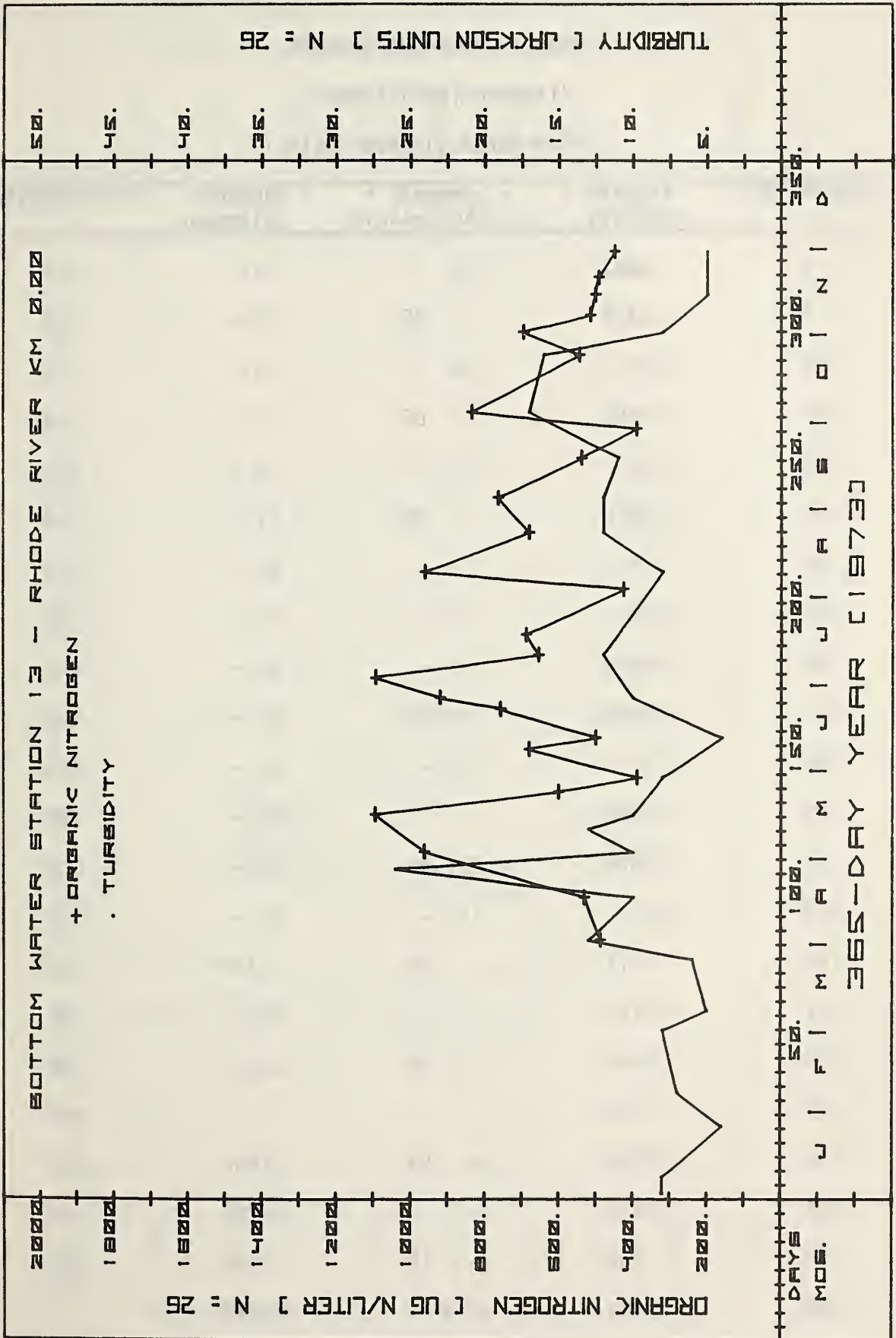
Bottom Station 13 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	112	53	500	4
173	21	-	757	-
177	39	49	919	10
184	16	-	1093	-
192	77	51	654	12
199	17	-	688	-
215	49	-	426	-
221	7	13	960	8
235	36	29	680	12
247	25	113	764	12
261	32	125	539	11
271	74	-	391	-
277	144	157	835	17
297	62	100	545	16
305	67	67	696	8
311	130	-	516	-
318	142	108	502	5
324	208	-	494	-
333	84	35	451	5
341	76	-	-	-
347	-	-	-	-
	N=36	N=21	N=26	N=26





Bottom Water Station 14

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

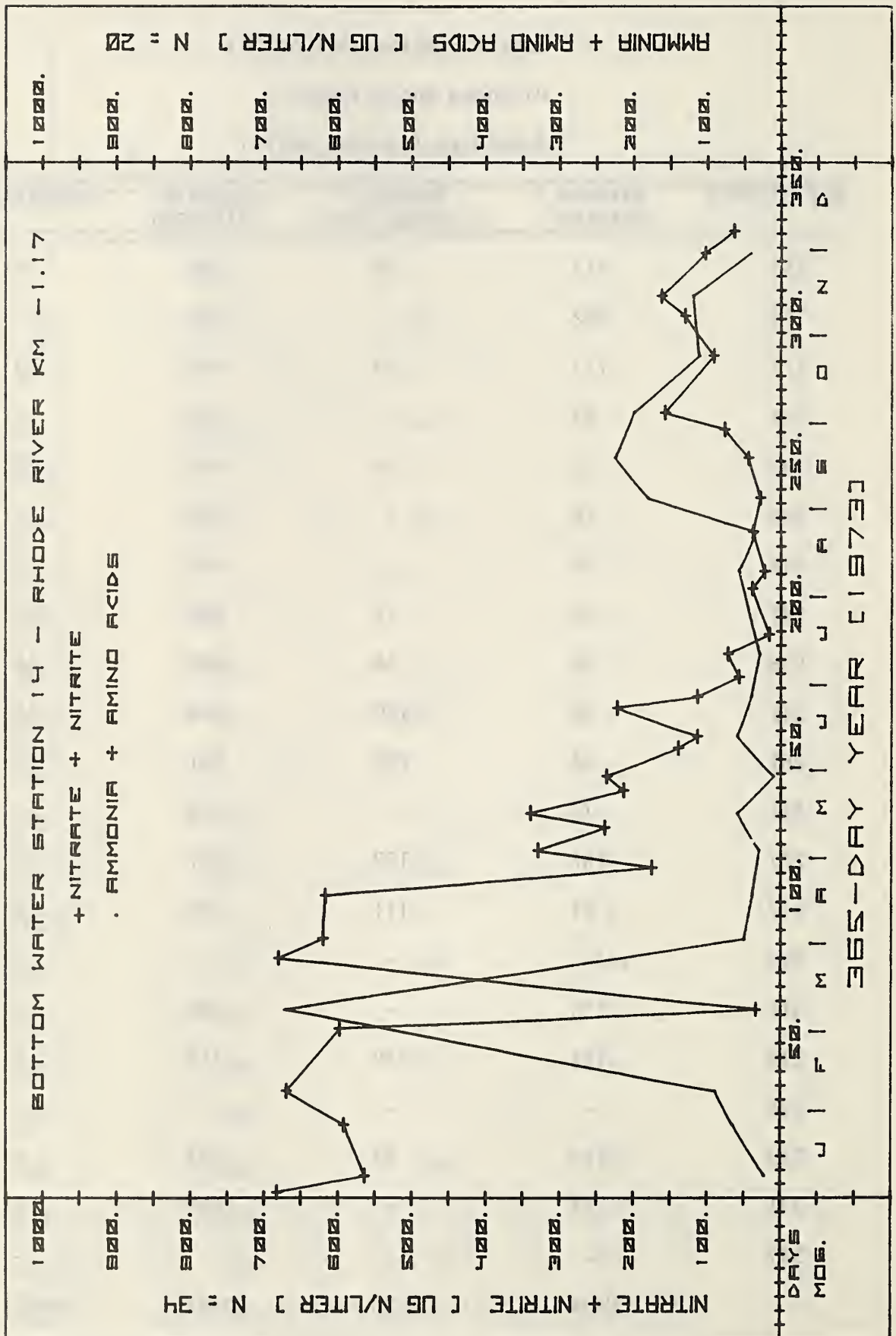
Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
2	683	-	-	7
8	564	22	-	7
19	-	-	-	-
26	592	65	-	4
33	-	-	-	-
38	670	89	-	9
47	-	-	-	-
52	-	-	-	-
60	598	-	-	7
67	34	672	-	5
78	-	-	-	-
85	680	-	-	20
92	620	50	-	8
103	-	-	-	-
107	617	39	454	10
117	175	-	-	27
123	329	30	-	12
131	239	-	-	7
136	339	59	838	17
144	213	-	707	-
149	236	10	455	5
159	139	-	616	-

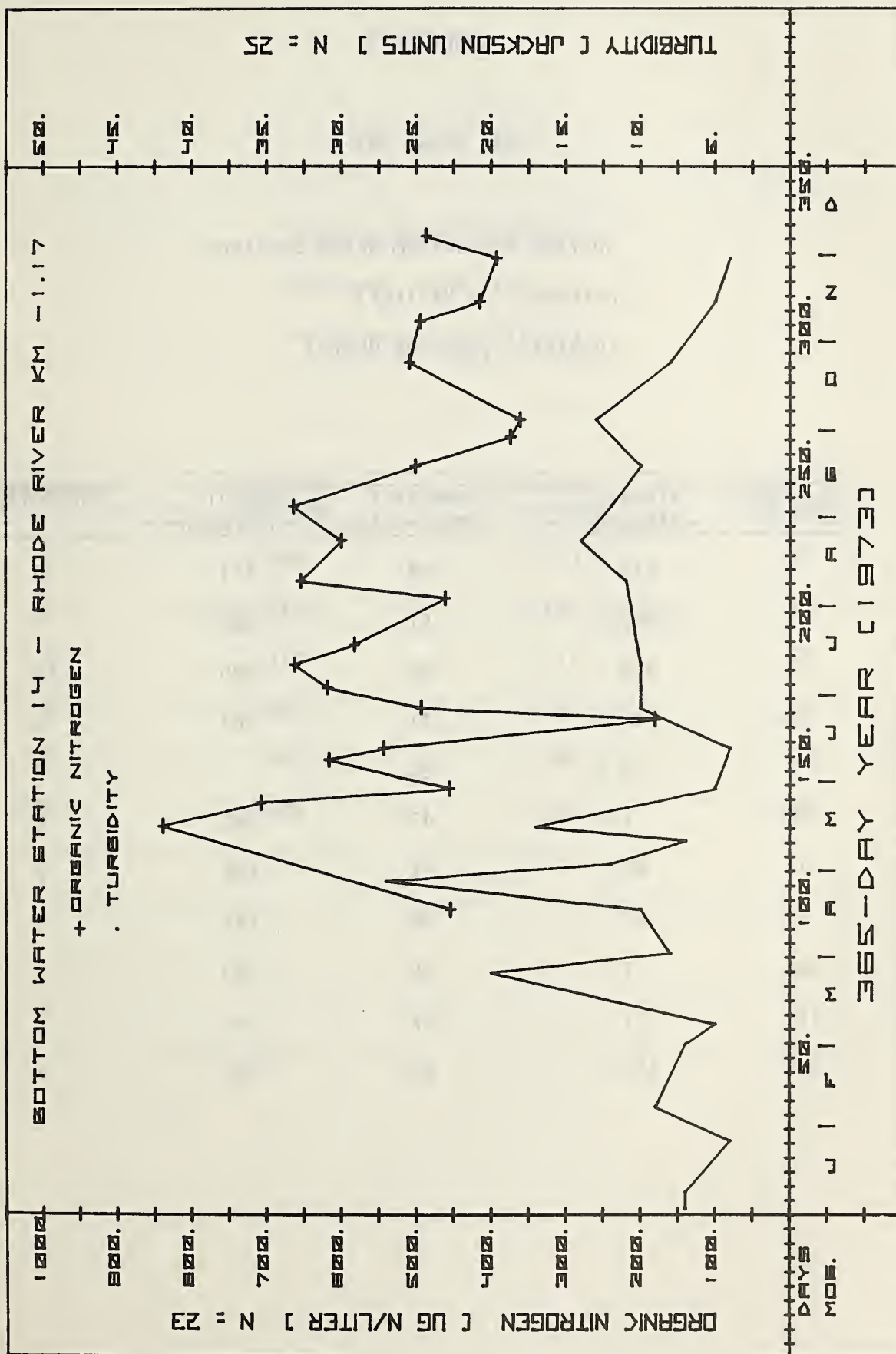
Bottom Station 14 (Cont'd)

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Day of 1973	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
163	113	59	543	4
173	222	-	181	-
177	113	40	493	10
184	57	-	618	-
192	72	29	662	10
199	16	-	582	-
215	39	-	461	-
221	22	57	654	11
235	38	34	600	14
247	28	180	664	12
261	44	225	501	10
271	76	-	374	-
277	157	199	361	13
297	91	111	509	8
305	-	-	-	-
311	130	-	495	-
318	162	120	415	5
324	-	-	-	-
333	103	42	393	4
341	64	-	487	-
347	-	-	-	-
	N=34	N=20	N=23	N=25





Addendum

1973 - Day 347

Surface And Bottom Water Stations

Nitrogen (ug N/liter)

Turbidity (Jackson Units)

Stations	Nitrate + Nitrite	Ammonia + Amino Acids	Organic Nitrogen	Turbidity
5	410	84	451	10
6	452	57	305	7
7	316	66	385	10
8	47	47	763	5
9	5	54	-	2
10	1	47	640	2
11	42	51	494	2
12	87	60	545	2
10b	7	35	690	3
11b	21	67	618	2
12b	102	53	458	2

Addendum

1973 - Day 361

Surface Water Stations

Nitrogen (ug N/liter)

Phosphorus (ug P/liter)

Stations	Nitrate + Nitrite	Organic Nitrogen	Total Phosphorus
1	455	473	157
2	415	160	51
3	313	211	47
4	422	240	59
SL	356	240	83
FOX	426	422	248

Addendum

1973 - Day 361

Surface Water Stations

Turbidity (Jackson Units)

<u>Stations</u>	<u>Turbidity</u>
1	10
2	17
3	7
4	11

Surface and Bottom Water Stations (maps 2 and 3)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

pH

Sodium Chloride - Chlorides were measured using the argentometric titration method (American Public Health Association, 1971. "Standard Methods for the Examination of Water and Waste Water". 13th ed. APHA, New York.

Alkalinity - Measured by acid titration to a phenolphthalein end point for carbonate and a bromcresol green-methyl red end point for bicarbonate (American Public Health Association, 1971. 13th ed. APHA, New York).

pH - Measured using a Hellige color comparator.

Principal Investigator: David L. Correll, Radiation Biology Laboratory, Smithsonian Institution.

Research Funding: Program for Research applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Sciences Program.

Surface Water Station 1

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

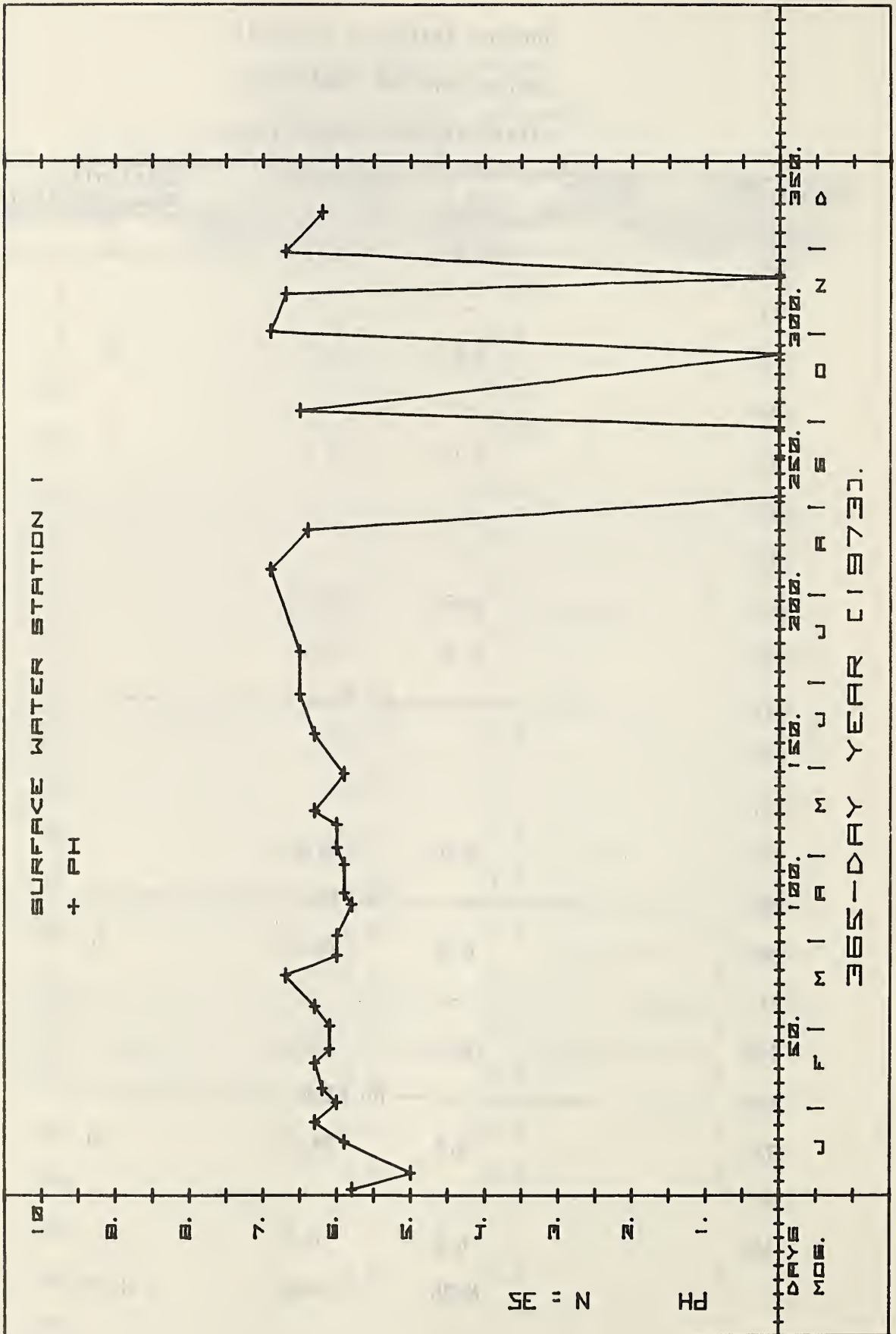
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	5.8	2.2	0
8	-	5.0	1.5	0
19	-	5.9	0.25	0
26	-	6.3	2.00	0
33	-	6.0	2.0	0
38	-	6.2	2.0	0
47	-	6.3	0.5	0
52	-	6.1	2.0	0
60	-	6.1	2.7	0
67	-	6.3	0.0	0
78	-	6.7	2.0	0
85	-	6.0	2.3	0
92	-	6.0	2.7	0
103	-	5.8	2.0	0
107	-	5.9	2.5	0
117	-	5.9	5.0	0
123	-	6.0	3.4	0
131	-	6.0	4.0	0
136	-	6.3	6.5	0
144	-	-	-	-
149	-	5.9	4.3	0
159	-	-	-	-

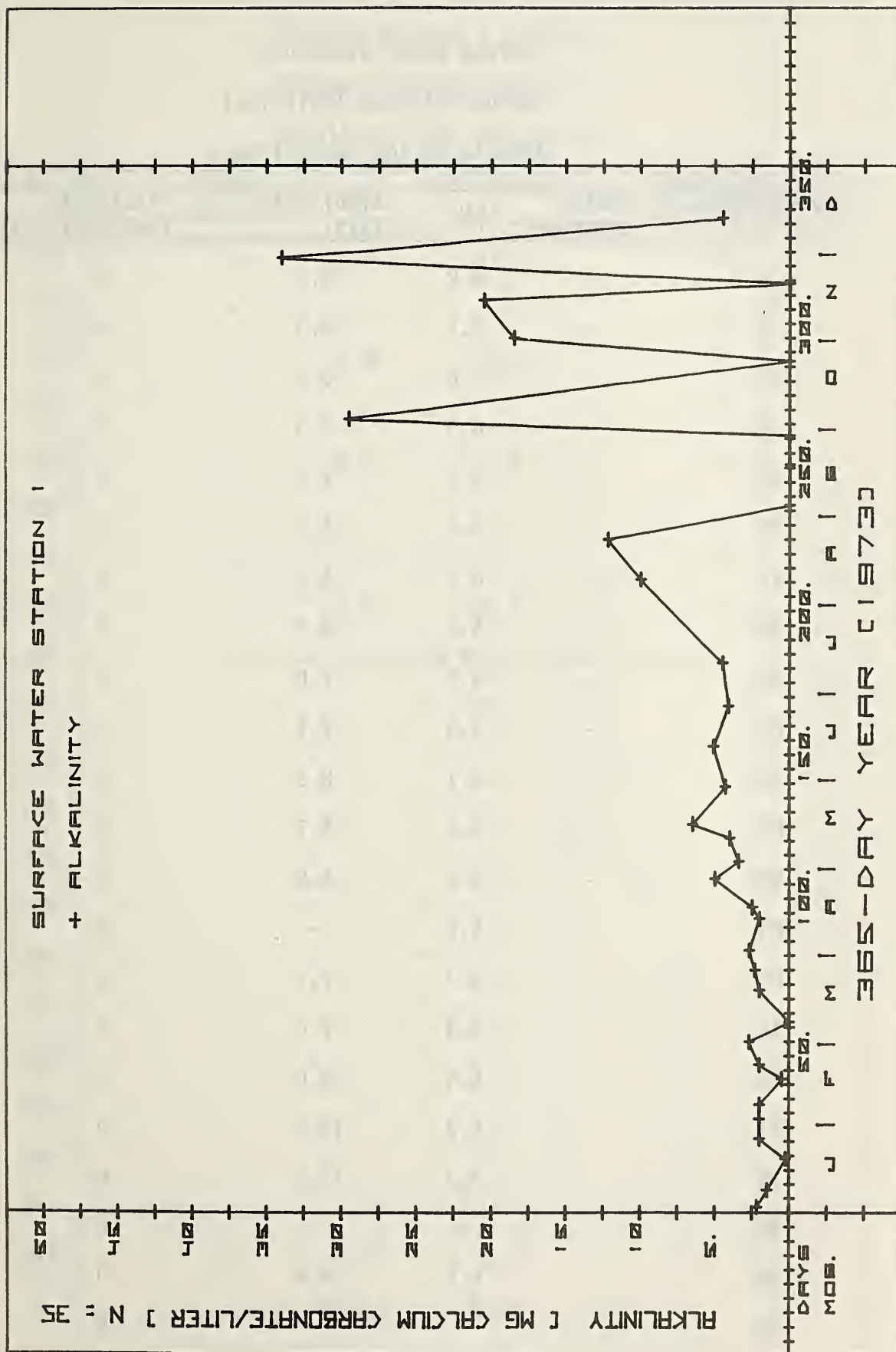
Surface Station 1 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	-	6.3	5.1	0
173	-	-	-	-
177	-	6.5	4.1	0
184	-	-	-	-
192	-	6.5	4.5	0
199	-	-	-	-
215	-	-	-	-
221	-	6.0	10.0	-
235	-	6.4	12.2	-
247	----- No Flow -----			
261		"	"	
271		"	"	
277	-	6.5	29.5	-
297	----- No Flow -----			
305	-	6.9	18.5	0
311	-	-	-	-
318	-	6.7	20.5	-
324	----- No Flow -----			
333	-	6.7	34.0	0
341	-	-	-	-
347	-	6.2	4.5	-
		N=35	N=35	N=29





Surface Water Station 2

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

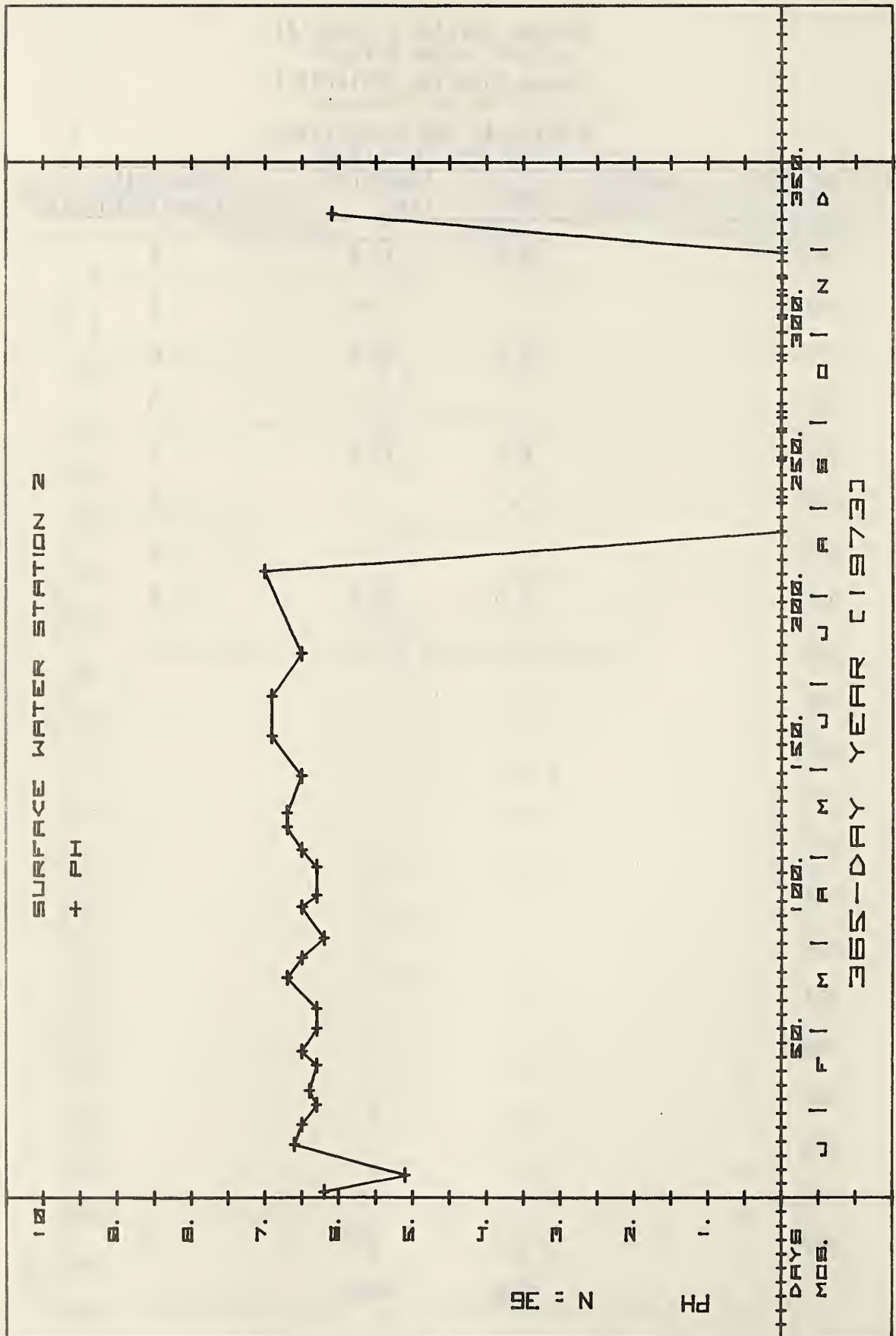
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	6.2	6.5	0
8	-	5.1	8.0	0
19	-	6.6	0.7	0
26	-	6.5	8.0	0
33	-	6.3	2.4	0
38	-	6.4	5.0	0
47	-	6.3	5.5	0
52	-	6.5	5.5	0
60	-	6.3	7.0	0
67	-	6.3	2.5	0
78	-	6.7	8.5	0
85	-	6.5	4.7	0
92	-	6.2	5.8	0
103	-	6.5	-	0
107	-	6.3	7.1	0
117	-	6.3	7.0	0
123	-	6.5	9.0	0
131	-	6.7	14.2	0
136	-	6.7	12.5	0
144	-	-	-	0
149	-	6.5	6.8	0
159	-	-	-	0

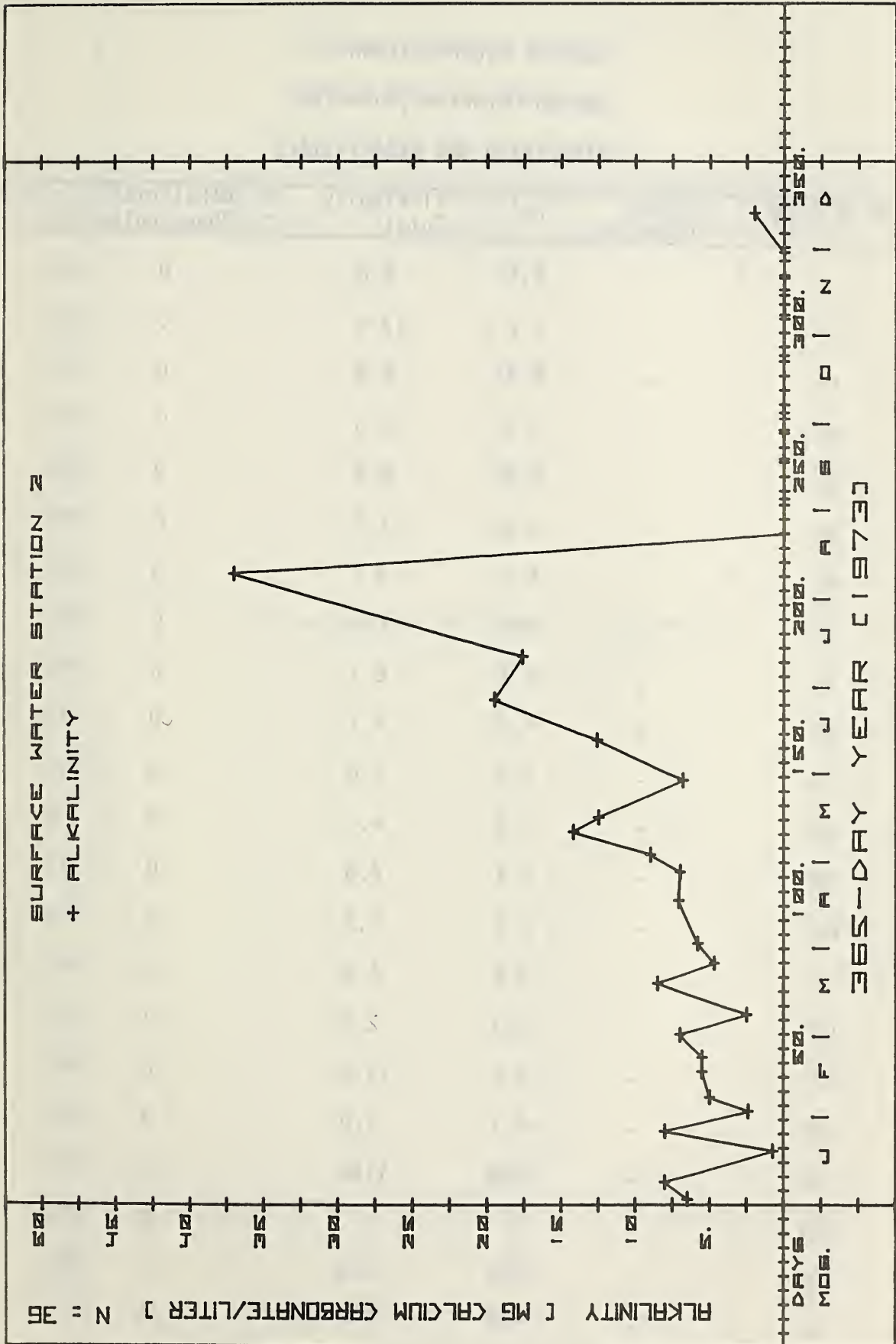
Surface Station 2 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	-	6.9	12.6	0
173	-	-	-	0
177	-	6.9	19.5	0
184	-	-	-	0
192	-	6.5	17.6	0
199	-	-	-	0
215	-	-	-	0
221	-	7.0	37.0	0
235	----- No Flow -----			
247		"	"	
261		"	"	
271		"	"	
277		"	"	
297		"	"	
305		"	"	
311		"	"	
318		"	"	
324		"	"	
333		"	"	
341	-	-	-	0
347	-	6.1	2.0	0
		N=36	N=36	





Surface Water Station 3

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

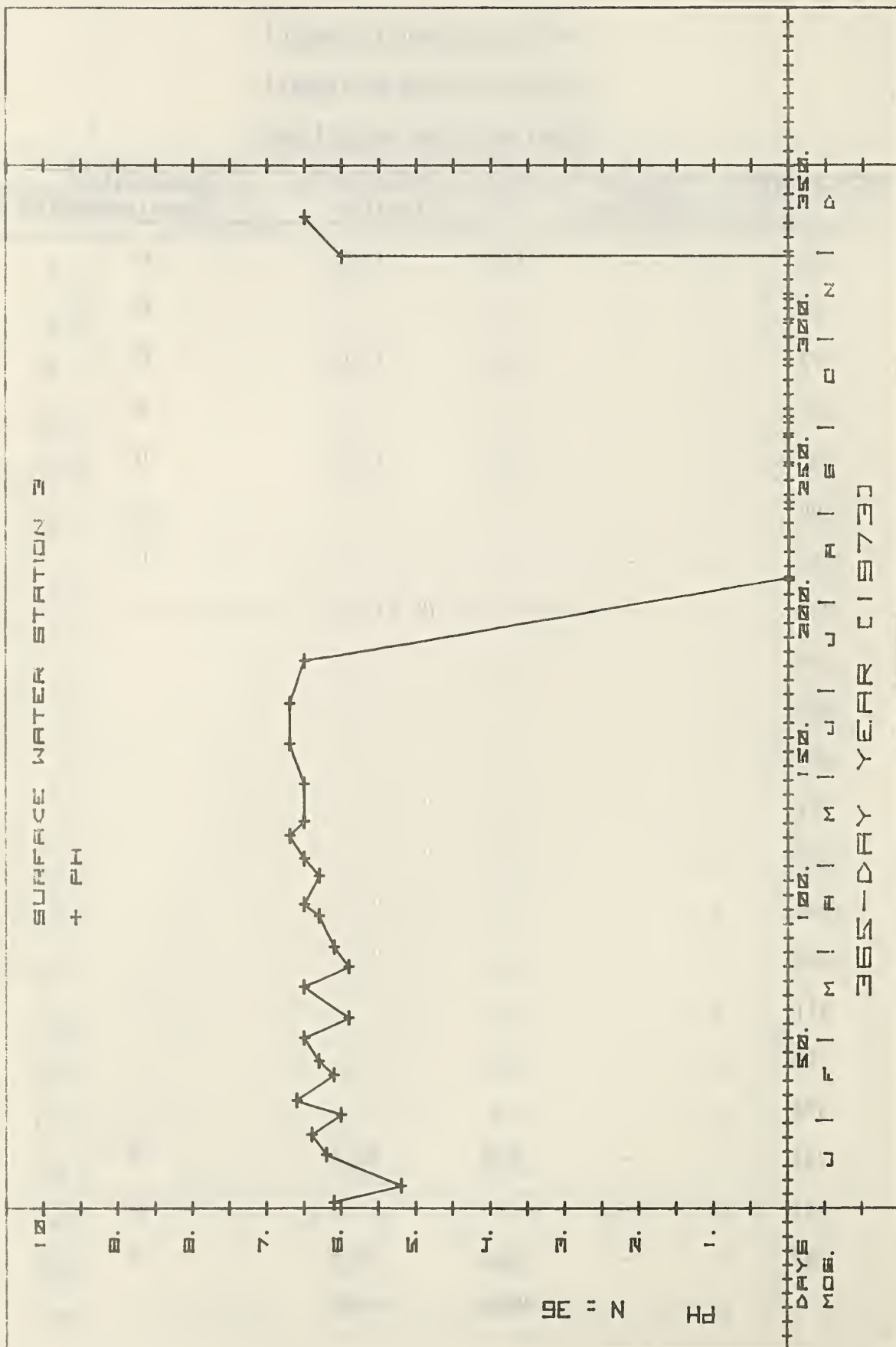
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	6.1	7.6	0
8	-	5.2	13.0	0
19	-	6.2	0.8	0
26	-	6.4	8.5	0
33	-	6.0	3.0	0
38	-	6.6	4.5	0
47	-	6.1	5.2	0
52	-	6.3	6.0	0
60	-	6.5	8.1	0
67	-	5.9	4.7	0
78	-	6.5	7.0	0
85	-	5.9	4.1	0
92	-	6.1	4.5	0
103	-	6.3	5.7	0
107	-	6.5	6.5	0
117	-	6.3	2.5	0
123	-	6.5	13.0	0
131	-	6.7	9.0	0
136	-	6.5	11.0	0
144	-	-	-	0
149	-	6.5	8.5	0
159	-	-	-	0

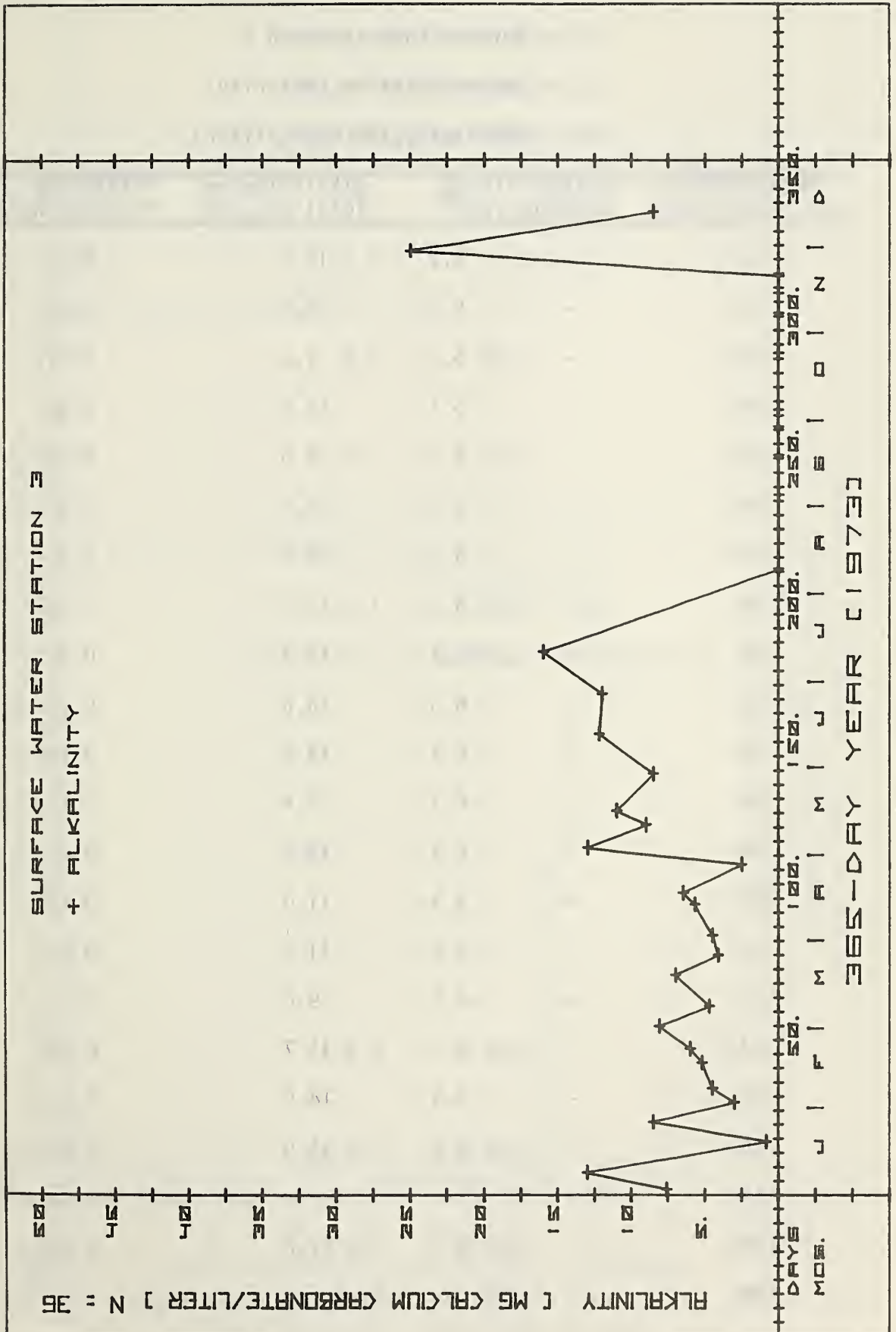
Surface Station 3 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	-	6.7	12.2	0
173	-	-	-	0
177	-	6.7	12.0	0
184	-	-	-	0
192	-	6.5	16.0	0
199	-	-	-	0
215	-	-	-	0
221	----- No Flow -----			
235			" "	
247			" "	
261			" "	
271			" "	
277			" "	
297			" "	
305			" "	
311			" "	
318			" "	
324			" "	
333	-	6.0	25.0	0
341	-	-	-	0
347	-	6.5	8.5	0
		N=36	N=36	





Surface Water Station 4

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

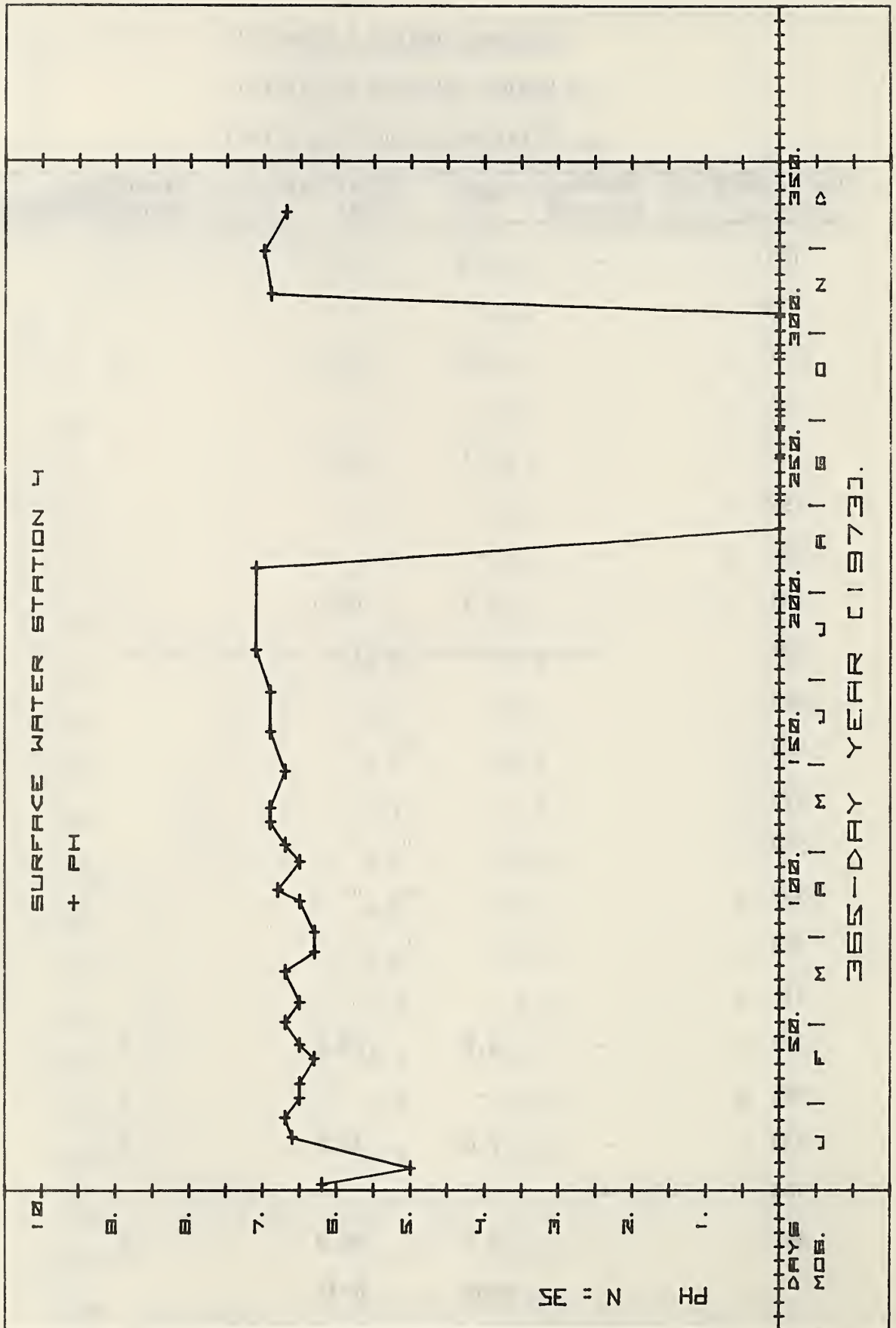
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	6.2	12.8	0
8	-	5.0	14.0	0
19	-	6.6	1.3	0
26	-	6.7	13.0	0
33	-	6.5	8.6	0
38	-	6.5	8.0	0
47	-	6.3	8.0	0
52	-	6.5	11.0	0
60	-	6.7	12.3	0
67	-	6.5	10.0	0
78	-	6.7	14.0	0
85	-	6.3	7.5	0
92	-	6.3	10.0	0
103	-	6.5	11.0	0
107	-	6.8	11.4	0
117	-	6.5	9.0	0
123	-	6.7	11.7	0
131	-	6.9	14.5	0
136	-	6.9	15.0	0
144	-	-	-	-
149	-	6.7	17.0	0
159	-	-	-	-

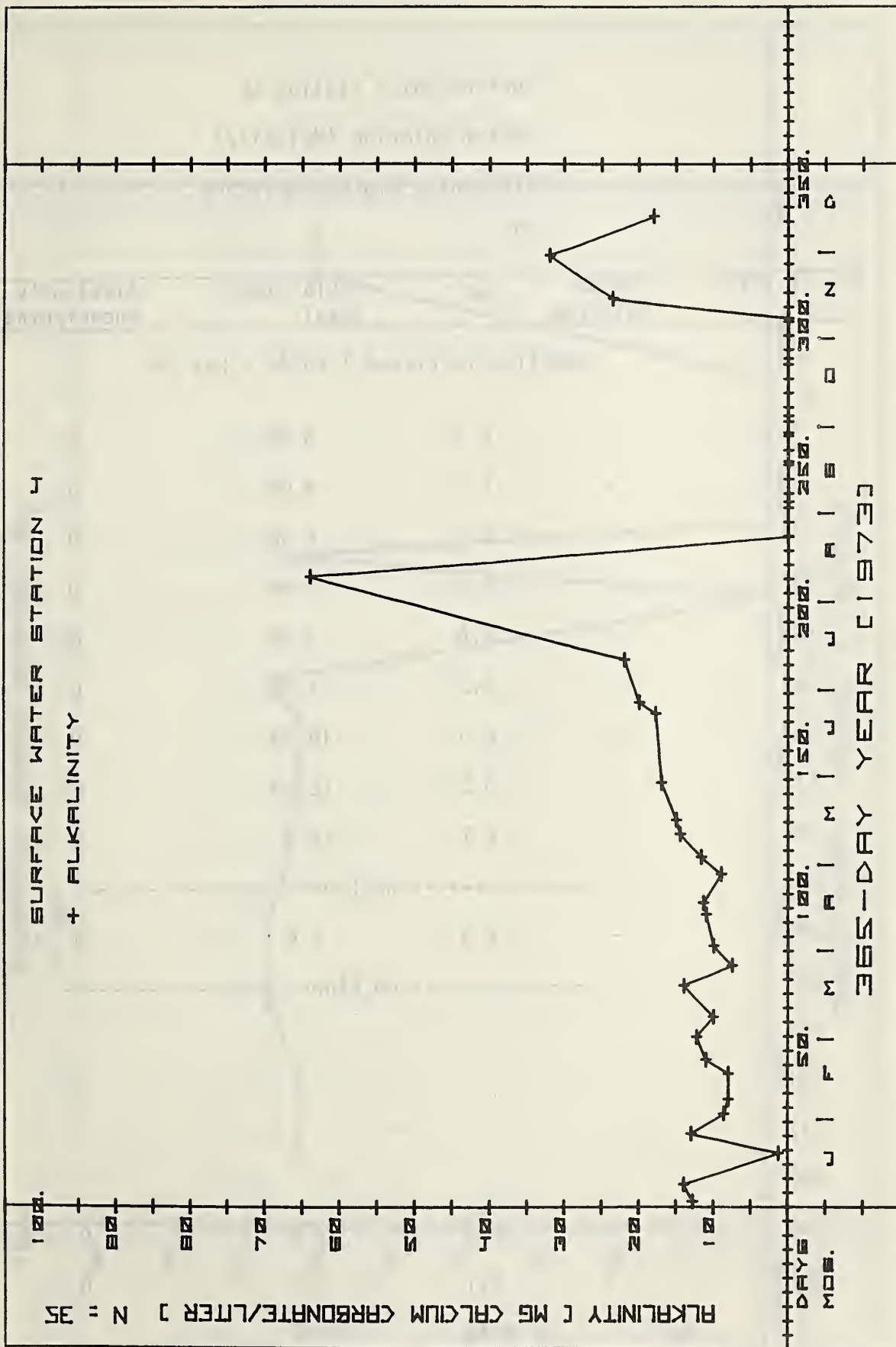
Surface Station 4 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	-	6.9	17.8	0
173	-	-	-	-
177	-	6.9	20.0	0
184	-	-	-	-
192	-	7.1	22.0	-
199	-	-	-	-
215	-	-	-	-
221	-	7.1	64.0	-
235	----- No Flow -----			
247		"	"	
261		"	"	
271		"	"	
277		"	"	
297		"	"	
305		"	"	
311		"	"	
318	-	6.9	23.5	0
324	-	-	-	-
333	-	7.0	32.0	0
341	-	-	-	-
347	-	6.7	18.0	0
		N=35	N=35	





Surface Water Station SL

Sodium Chloride (Molarity)

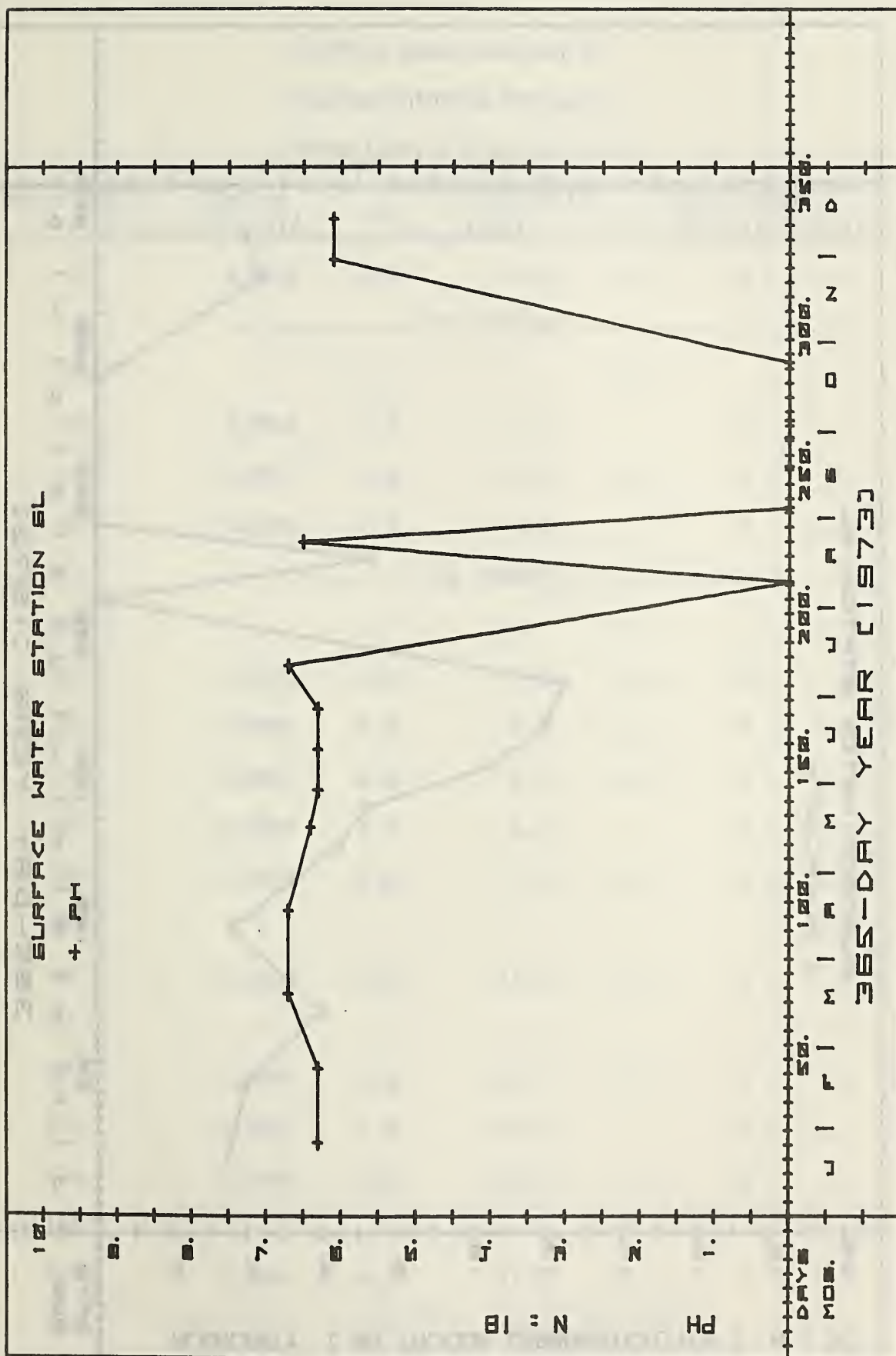
Alkalinity (mg CaCO₃/liter)

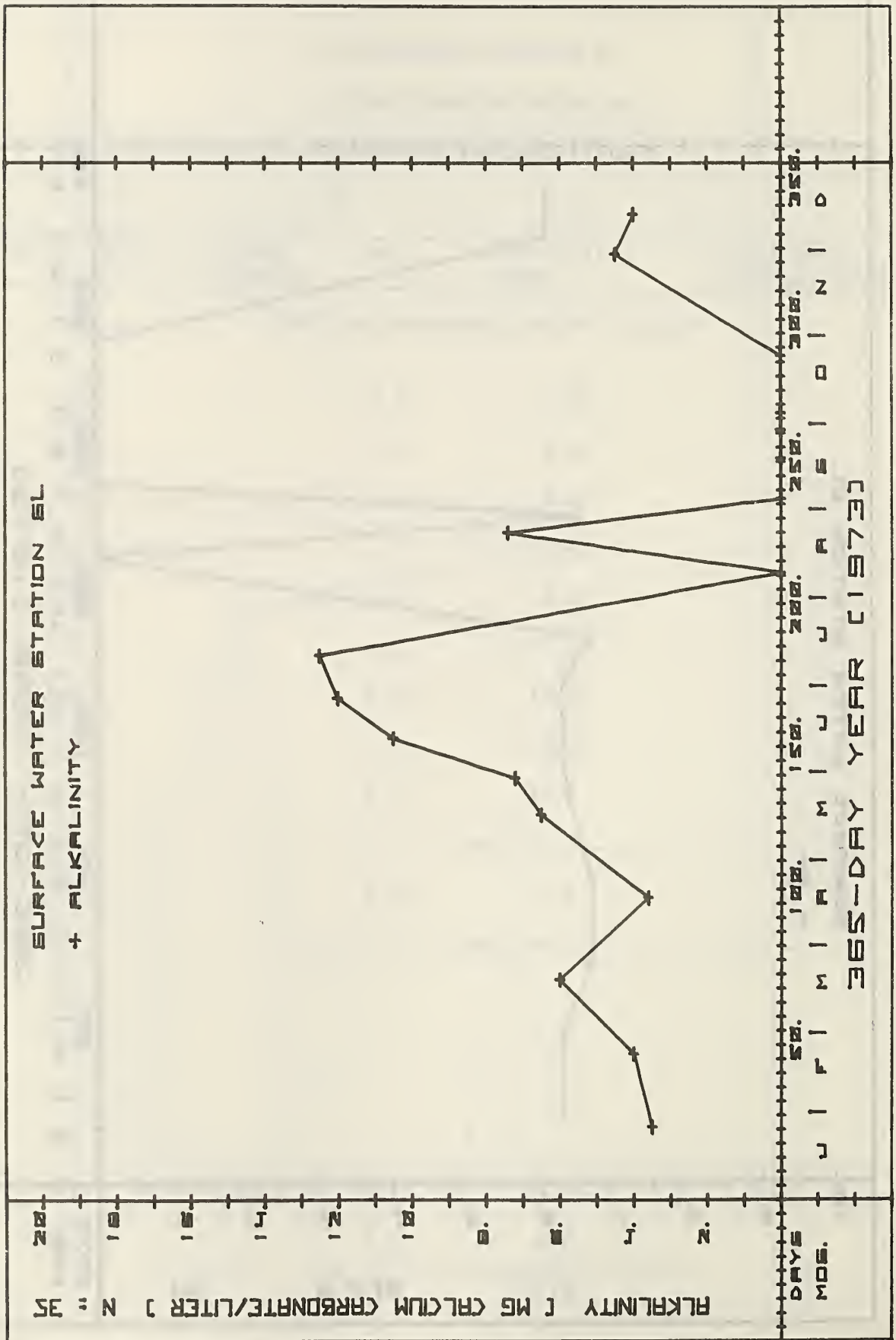
pH

Day of 1973	Sodium Chloride	pH	Alkalinity total	Alkalinity Phenolphthalein
-------------	-----------------	----	------------------	----------------------------

Sampling initiated 1/26/74 - Day 26

26	-	6.3	3.50	0
52	-	6.3	4.00	0
78	-	6.7	6.00	0
107	-	6.7	3.60	0
136	-	6.4	6.50	0
149	-	6.3	7.20	0
163	-	6.3	10.50	0
177	-	6.3	12.00	0
192	-	6.7	12.5	0
221	-----No Flow-----			
235	-	6.5	7.4	0
247	-----No Flow-----			
261			" "	
271			" "	
277			" "	
297			" "	
333	-	6.1	4.5	0
347	-	6.1	4.0	0
N=18			N=18	





Surface Water Station 5

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

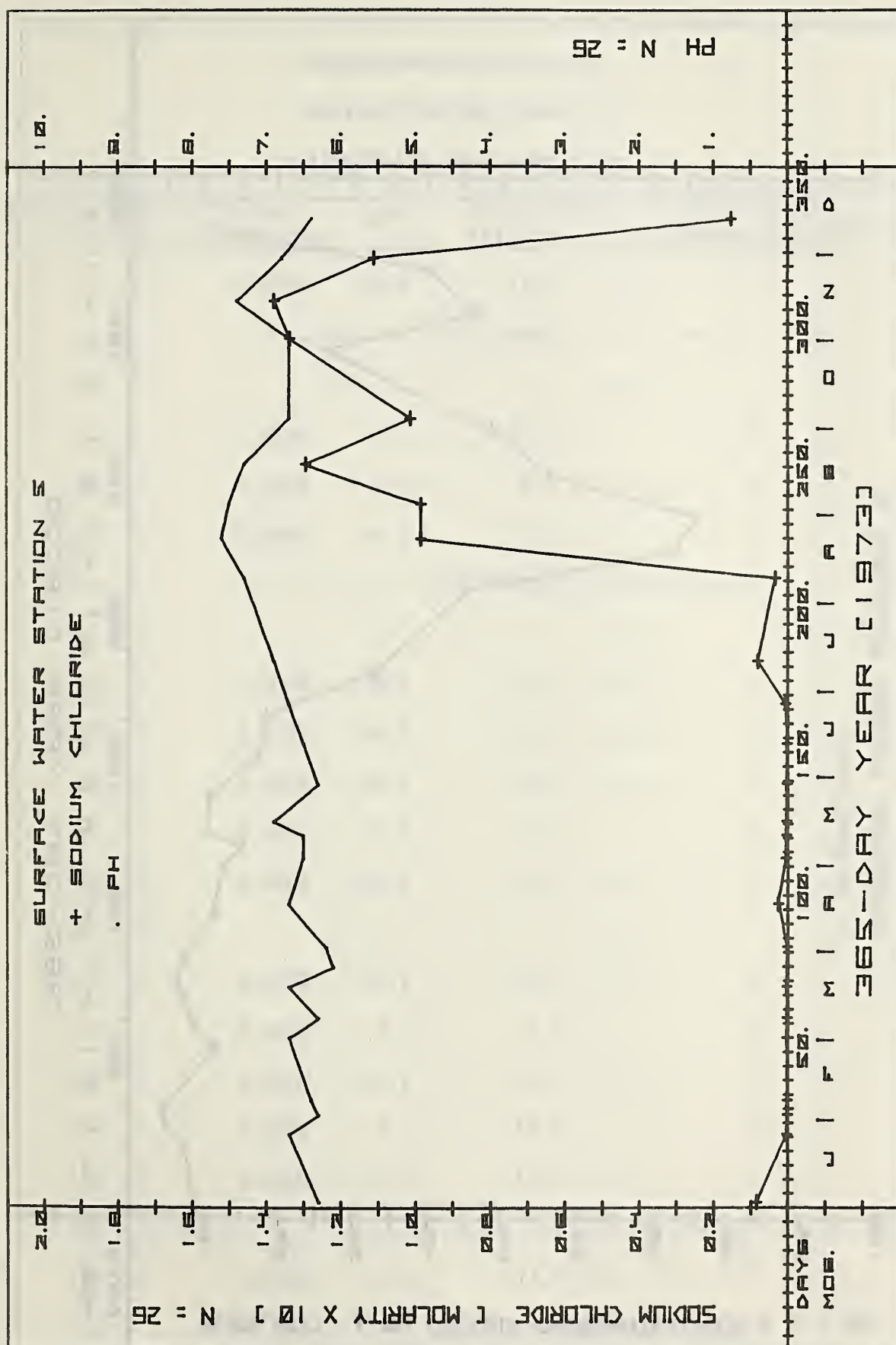
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	0.0085	6.3	9.0	0
8	-----ICE COVERED -----			
19		"	"	
26	0.0004	6.7	7.5	0
33	0.0002	6.3	5.2	0
38	0.0003	6.4	4.5	0
47	-----ICE COVERED -----			
52		"	"	
60	0.0004	6.7	11.5	0
67	0.0003	6.3	9.0	0
78	0.0004	6.7	7.5	0
85	0.0002	6.1	6.5	0
92	0.0003	6.2	7.4	0
103	-	-	-	-
107	0.0027	6.7	11.5	0
117	-	-	-	-
123	0.0006	6.5	12.7	0
131	0.0005	6.5	15.2	0
136	0.0004	6.9	10.5	0
144	-	-	-	-
149	0.0003	6.3	11.0	0
159	-	-	-	-

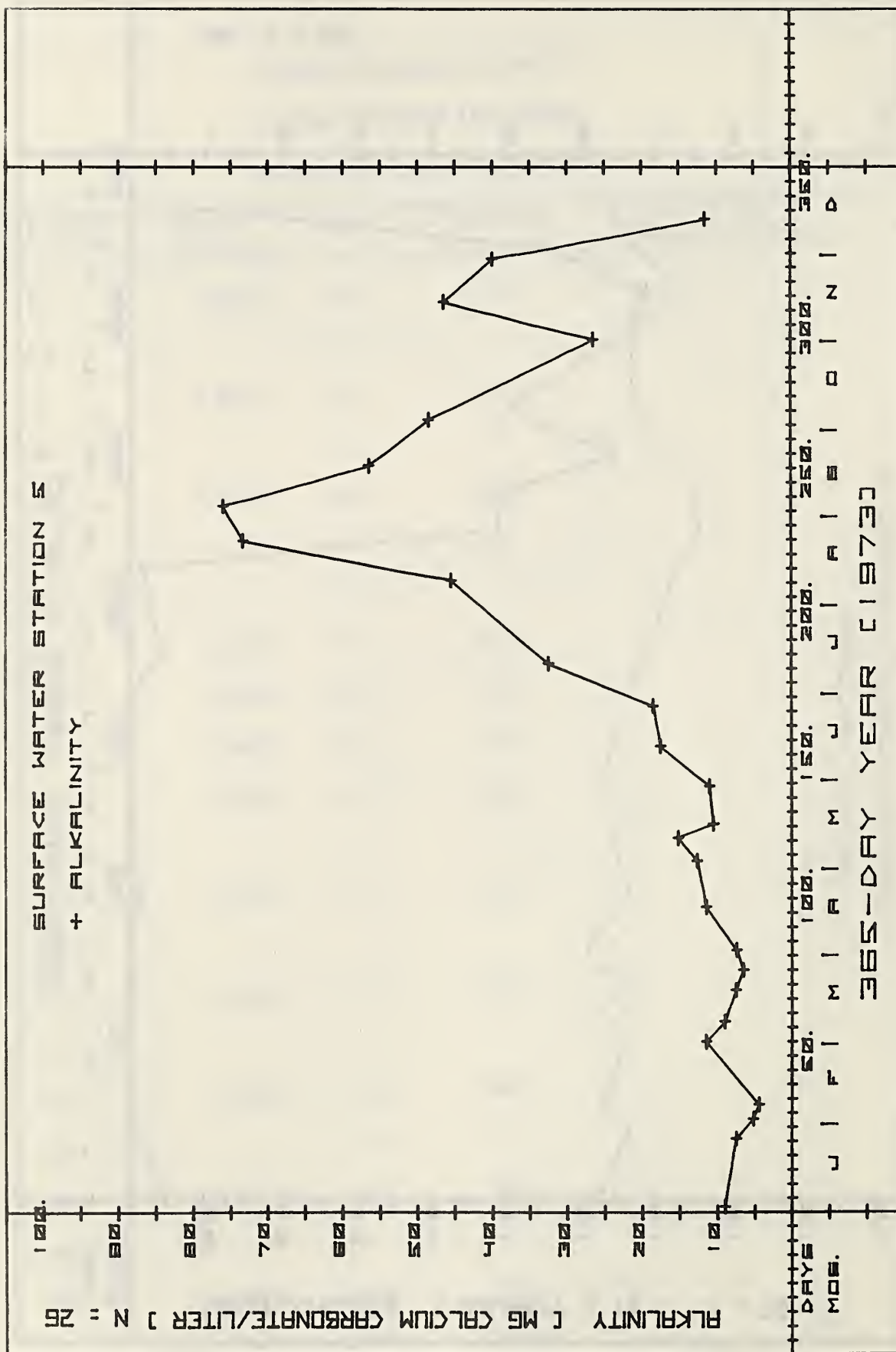
Surface Station 5 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0003	6.5	17.5	0
173	-	-	-	-
177	0.0007	6.7	18.5	0
184	-	-	-	-
192	0.0082	6.9	32.5	0
199	-	-	-	-
215	-	-	-	-
221	0.0350	7.3	45.5	0
235	0.0986	7.6	73.3	0
247	0.0986	7.5	76.0	0
261	0.1295	7.3	56.5	0
271	-	-	-	-
277	0.1014	6.7	48.5	0
297	-	-	-	-
305	0.1338	6.7	26.5	0
311	-	-	-	-
318	0.1380	7.4	46.5	0
324	-	-	-	-
333	0.1113	6.8	40.0	0
341	-	-	-	-
347	0.0152	6.4	11.5	0
	N=26	N=26	N=26	





Surface Water Station 6

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

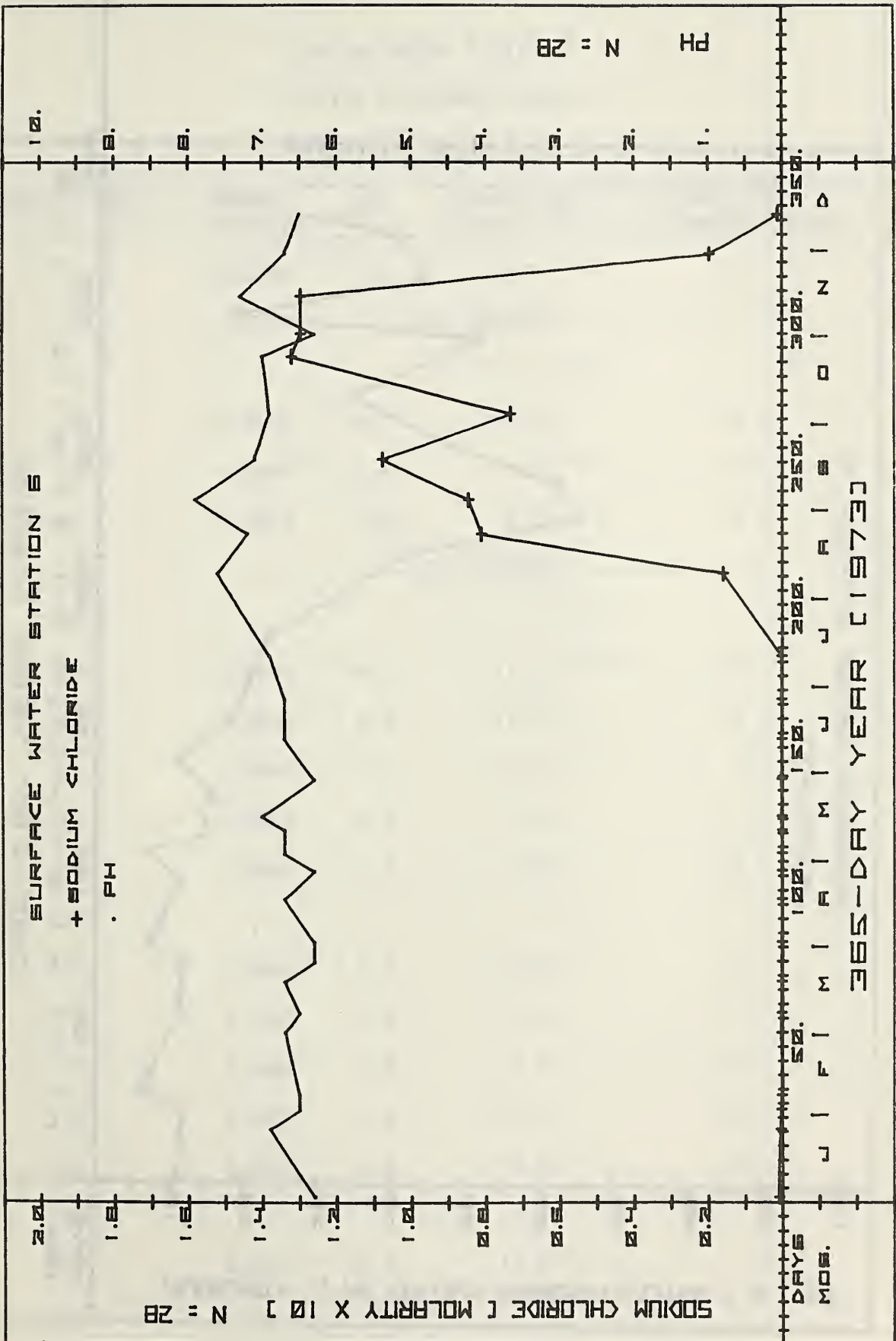
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	0.0010	6.3	11.3	0
8	----- ICE COVERED -----			
19		"	"	
26	0.0005	6.9	12.0	0
33	0.0003	6.5	6.5	0
38	0.0002	6.5	7.5	0
47	----- ICE COVERED -----			
52		"	"	
60	0.0004	6.7	11.5	0
67	0.0003	6.5	11.6	0
78	0.0002	6.7	12.0	0
85	0.0002	6.3	7.5	0
92	0.0002	6.3	9.0	0
103	-	-	-	-
107	0.0002	6.7	11.4	0
117	0.0002	6.3	7.0	0
123	0.0002	6.7	15.0	0
131	0.0002	6.7	14.2	0
136	0.0002	7.0	16.0	0
144	-	-	-	-
149	0.0002	6.3	11.0	0
159	-	-	-	-

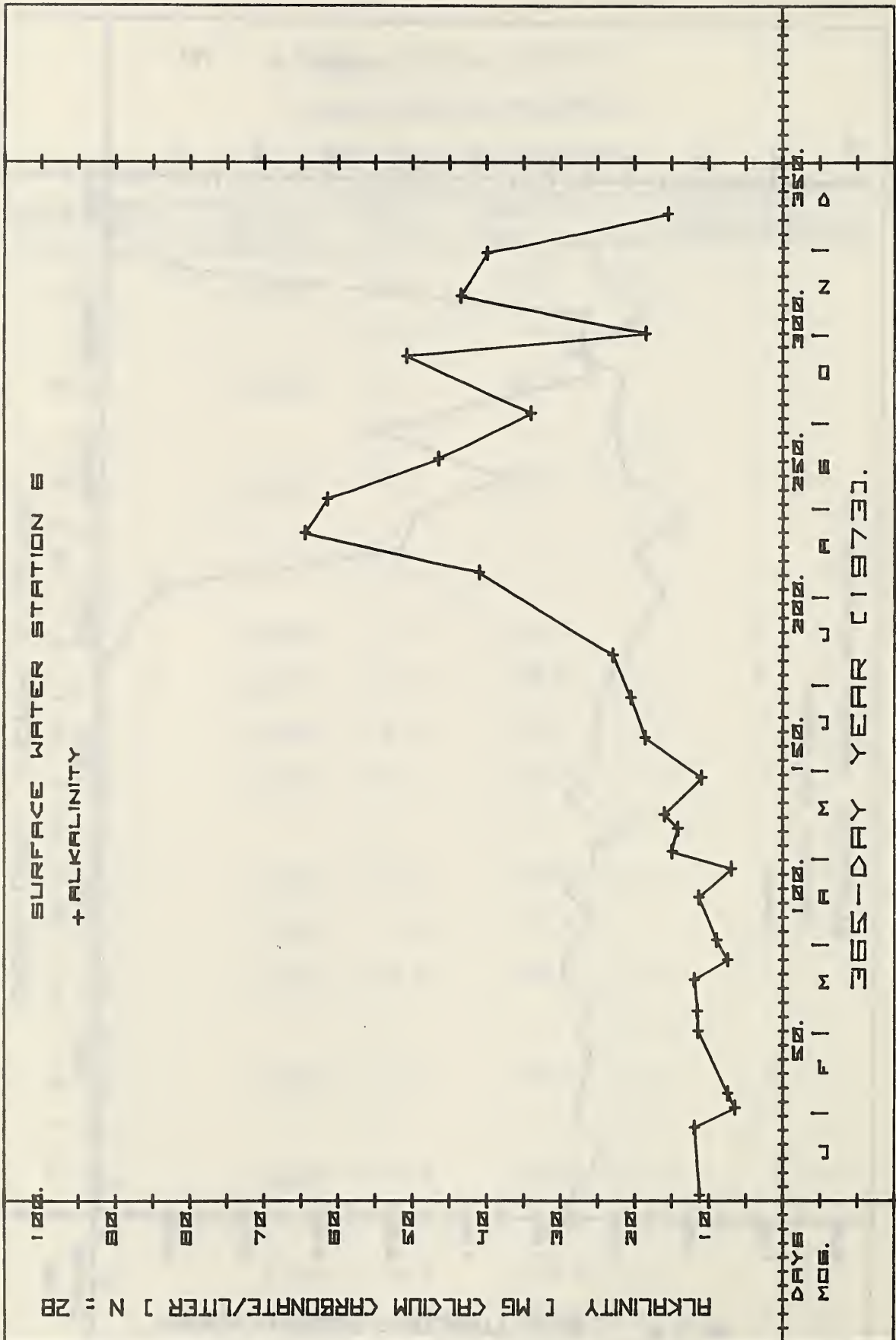
Surface Station 6 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0002	6.7	18.6	0
173	-	-	-	-
177	0.0002	6.7	20.5	-
184	-	-	-	-
192	0.0002	6.9	23.0	0
199	-	-	-	-
215	-	-	-	-
221	0.0160	7.6	41.0	0
235	0.0811	7.2	64.5	0
247	0.0845	7.9	61.5	0
261	0.1076	7.1	46.5	0
271	-	-	-	-
277	0.0732	6.9	34.0	0
297	0.1320	7.0	50.8	0
305	0.1296	6.3	18.5	0
311	-	-	-	-
318	0.1296	7.3	43.5	0
324	-	-	-	-
333	0.0197	6.7	40.0	0
341	-	-	-	-
347	0.0013	6.5	15.5	0
	N=28	N=28	N=28	





Surface Water Station 7

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

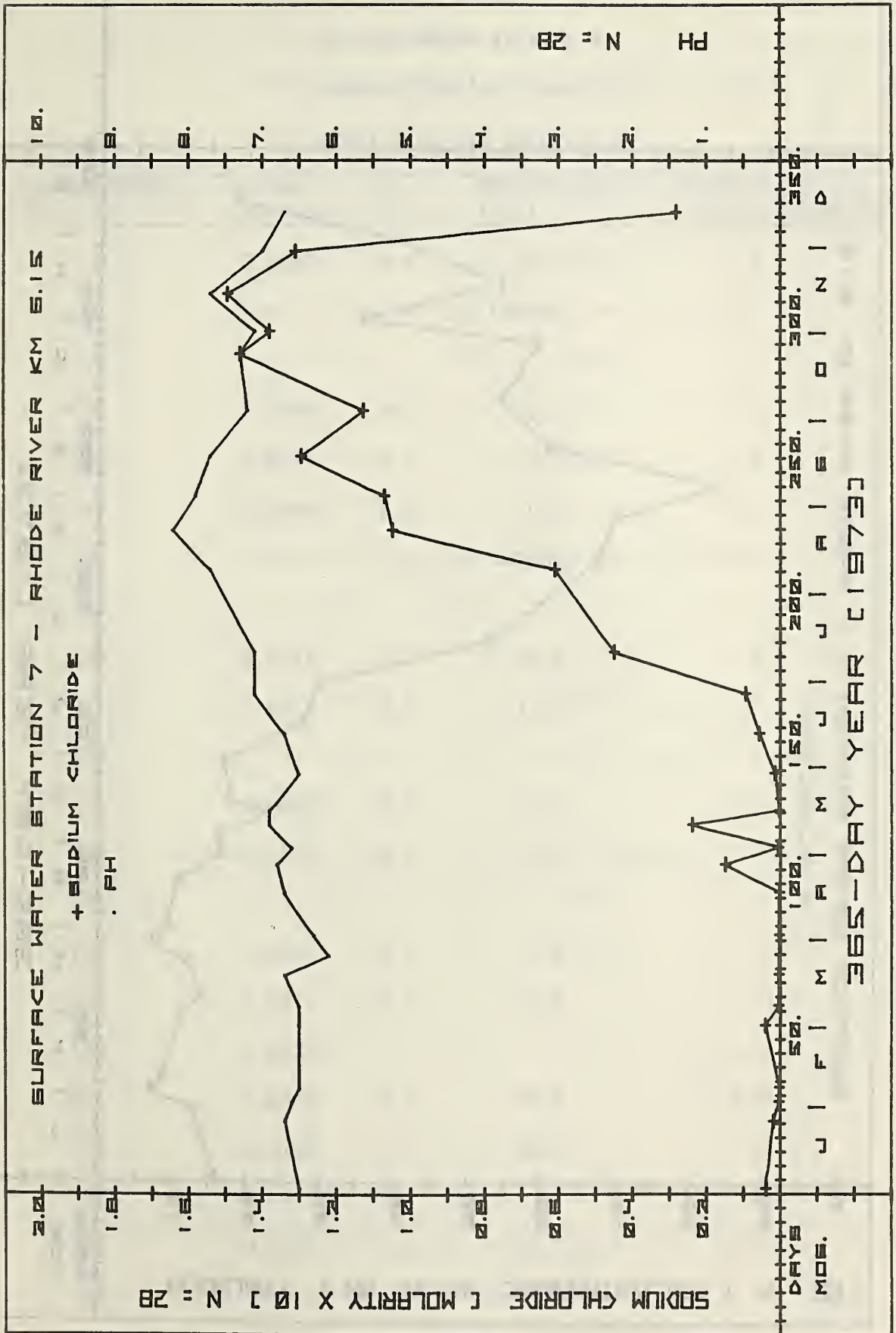
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	0.0040	6.5	16.0	0
8	-----ICE COVERED -----			
19	" "			
26	0.0019	6.7	13.0	0
33	0.0004	6.6	7.3	0
38	0.0003	6.5	9.0	0
47	-----ICE COVERED -----			
52	" "			
60	0.0042	6.5	11.6	0
67	0.0005	6.5	14.3	0
78	0.0004	6.7	12.5	0
85	0.0003	6.1	7.5	0
92	0.0004	6.3	9.6	0
103	-	-	-	-
107	0.0003	6.7	10.8	0
117	0.0149	6.8	17.0	0
123	0.0006	6.6	16.3	0
131	0.0239	6.9	23.0	0
136	0.0003	6.9	18.0	0
144	-	-	-	-
149	0.0015	6.5	17.0	0
159	-	-	-	-

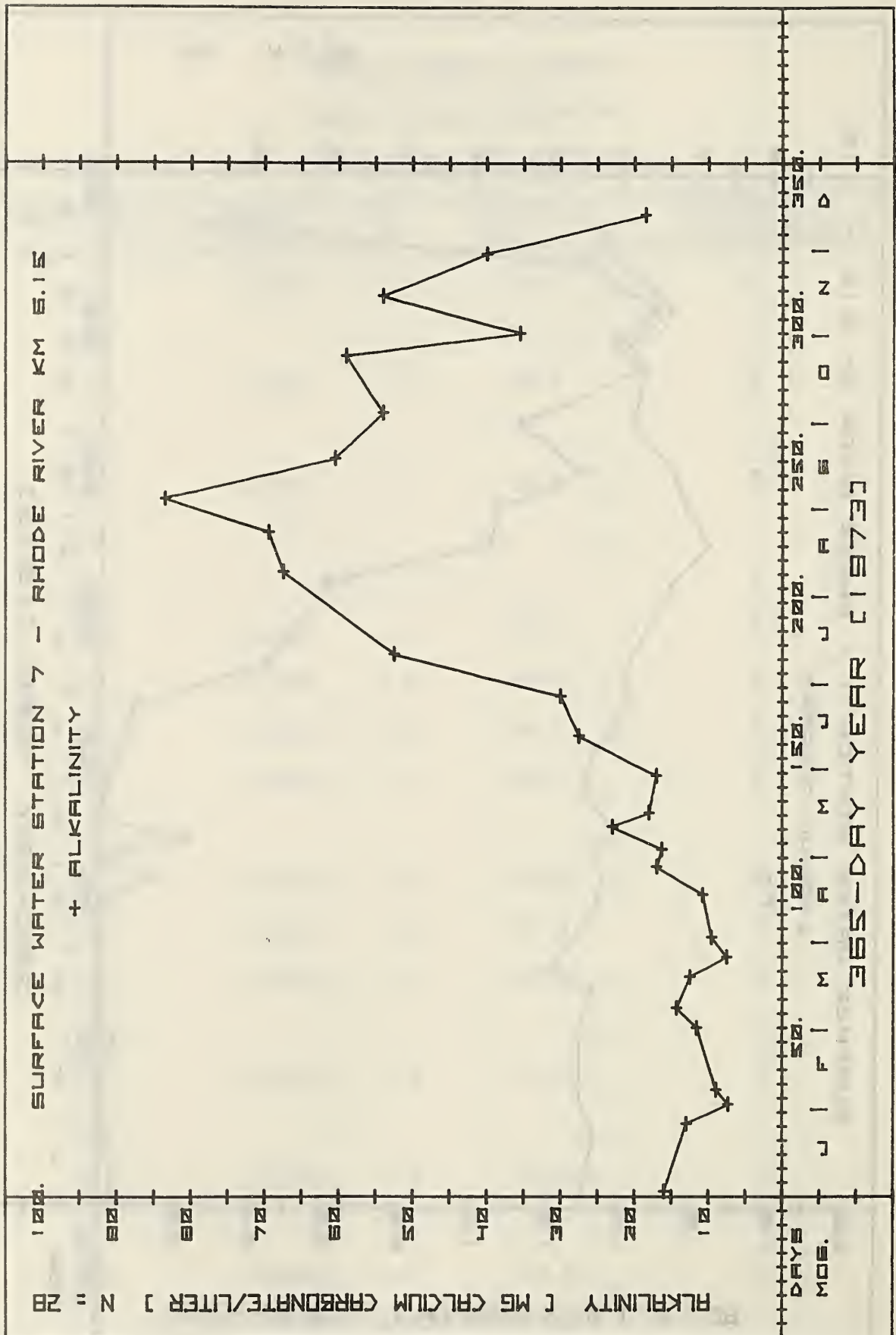
Surface Station 7 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0057	6.7	27.5	0
173	-	-	-	-
177	0.0094	7.1	30.0	0
184	-	-	-	-
192	0.0451	7.1	52.5	0
199	-	-	-	-
215	-	-	-	-
221	0.0610	7.7	67.5	0
235	0.1048	8.2	69.5	0
247	0.1070	7.9	83.5	0
261	0.1295	7.7	60.5	0
271	-	-	-	-
277	0.1127	7.2	54.0	0
297	0.1460	7.3	59.0	0
305	0.1380	7.1	35.5	0
311	-	-	-	-
318	0.1493	7.7	54.0	0
324	-	-	-	-
333	0.1310	7.0	40.0	0
341	-	-	-	-
347	0.0282	6.7	18.5	-
	N=28	N=28	N=28	





Surface Water Station 8

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

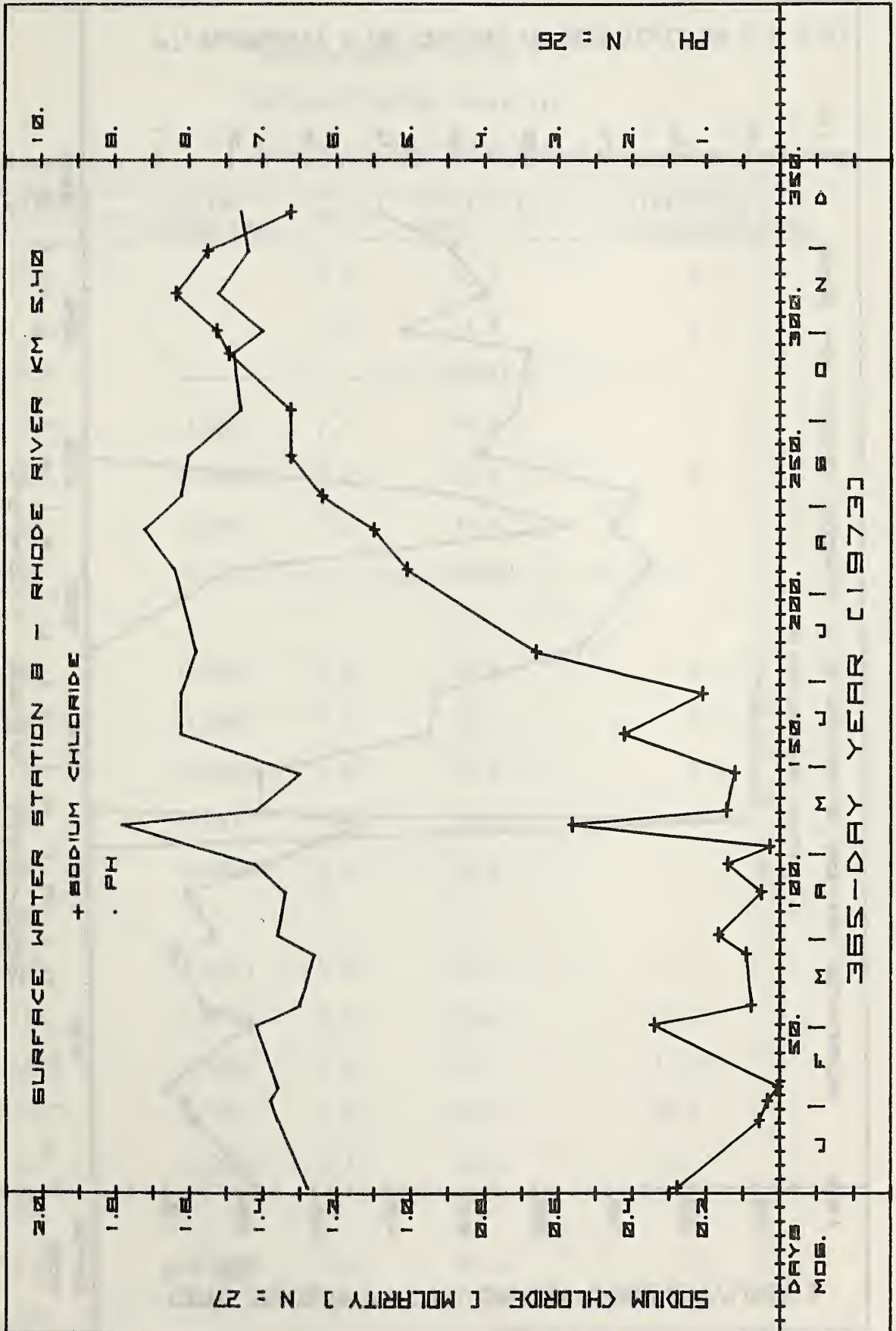
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	0.0280	6.4	22.3	0
8	----- ICE COVERED -----			
19	" "			
26	0.0056	6.8	14.0	0
33	0.0034	6.9	12.7	0
38	0.0005	6.8	10.0	0
47	----- ICE COVERED -----			
52	" "			
60	0.0341	7.1	21.8	0
67	0.0078	6.5	15.5	0
78	-	-	-	-
85	0.0092	6.3	11.0	0
92	0.0167	6.8	17.0	0
103	-	-	-	-
107	0.0051	6.7	13.5	-
117	0.0414	7.1	24.0	0
123	0.0028	-	-	0
131	0.0563	8.9	37.0	9.0
136	0.0144	7.1	23.5	0
144	-	-	-	-
149	0.0122	6.5	23.2	0
159	-	-	-	-

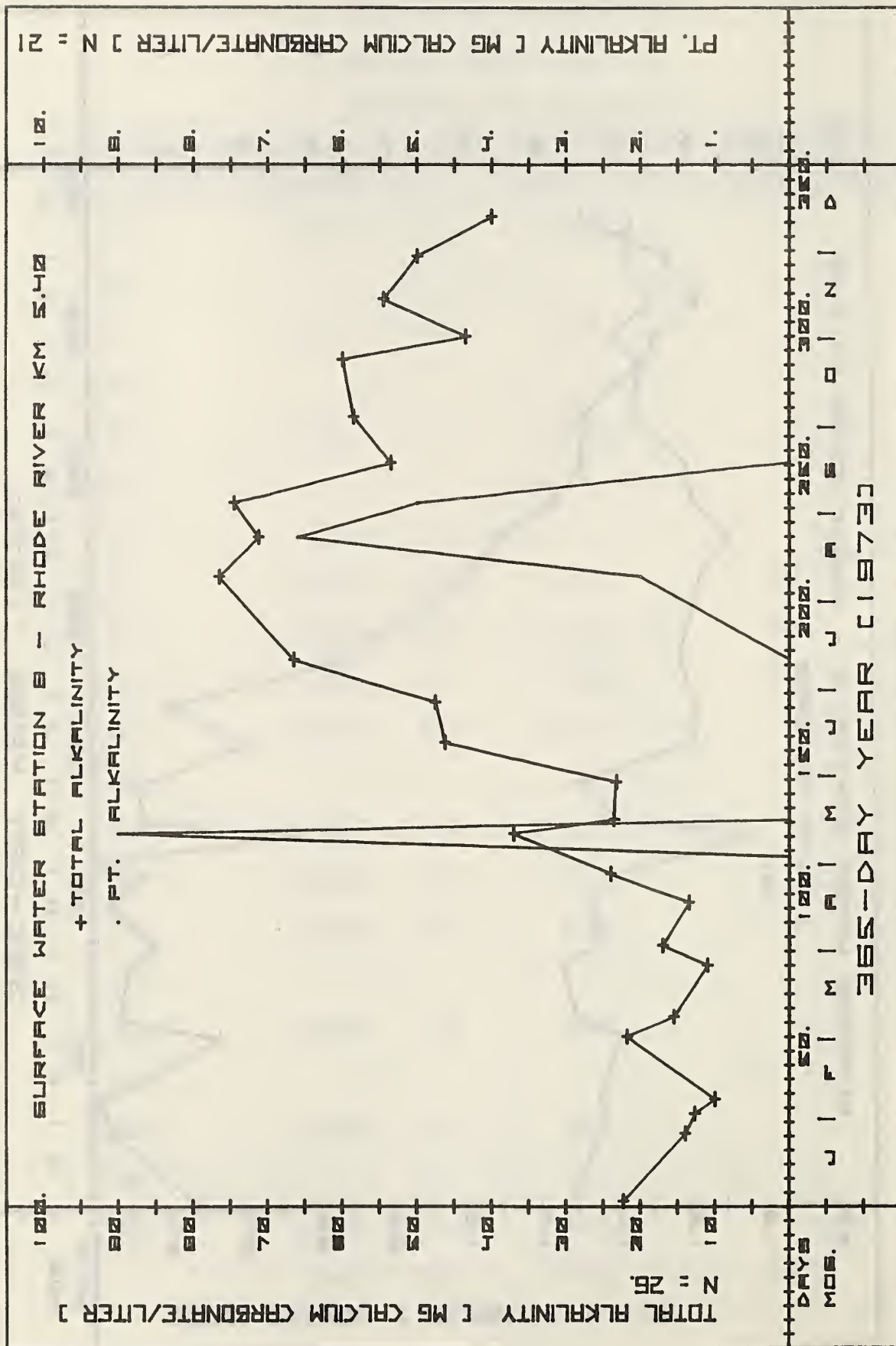
Surface Station 8 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0423	8.1	46.2	0
173	-	-	-	-
177	0.0210	8.1	47.5	0
184	-	-	-	-
192	0.0662	7.9	66.5	0
199	-	-	-	-
215	-	-	-	-
221	0.1010	8.2	76.5	2.0
235	0.1099	8.6	71.2	6.6
247	0.1239	8.1	74.5	5.0
261	0.1324	8.0	53.5	0
271	-	-	-	-
277	0.1324	7.3	58.5	-
297	0.1490	7.4	60.0	-
305	0.1524	7.0	43.5	-
311	-	-	-	-
318	0.1634	7.6	54.5	0
324	-	-	-	-
333	0.1549	7.2	50.0	-
341	-	-	-	-
347	0.1324	7.3	40.0	-
	N=27	N=26	N=26	N=21





Surface Water Station 9

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

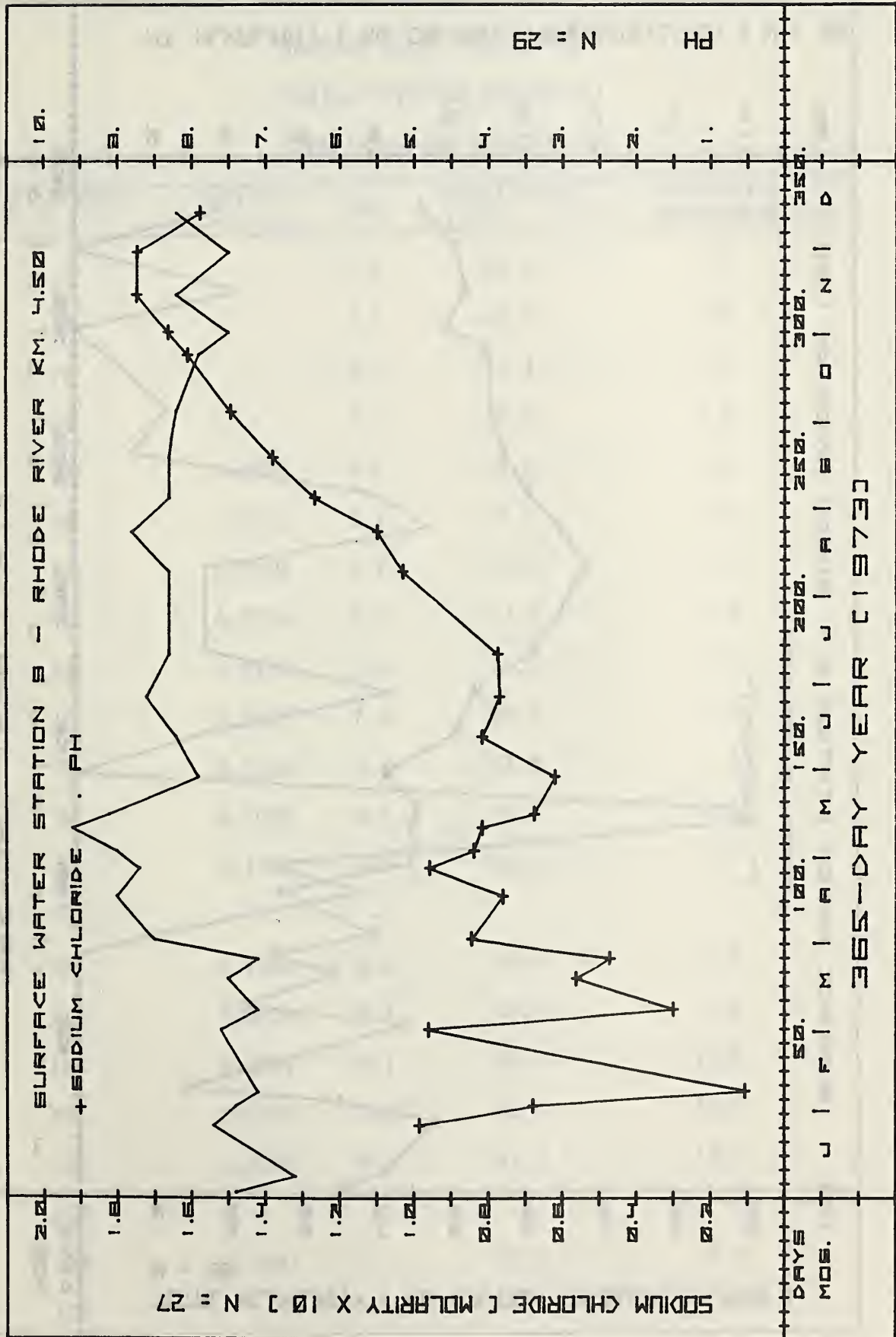
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.4	35.9	0
8	-	6.6	41.5	0
19	----- ICE COVERED -----			
26	0.0986	7.7	48.0	0
33	0.0679	7.4	35.1	0
38	0.0107	7.1	14.5	0
47	----- ICE COVERED -----			
52		"	"	
60	0.0961	7.6	44.0	0
67	0.0301	7.1	22.6	0
78	0.0563	7.5	34.5	0
85	0.0473	7.1	26.5	0
92	0.0845	8.5	39.8	2.1
103	-	-	-	-
107	0.0761	9.0	27.3	7.7
117	0.0958	8.7	45.0	5.0
123	0.0839	9.0	45.1	11.2
131	0.0817	9.6	45.0	18.0
136	0.0676	9.1	46.0	17.5
144	-	-	-	-
149	0.0620	7.9	41.5	0
159	-	-	-	-

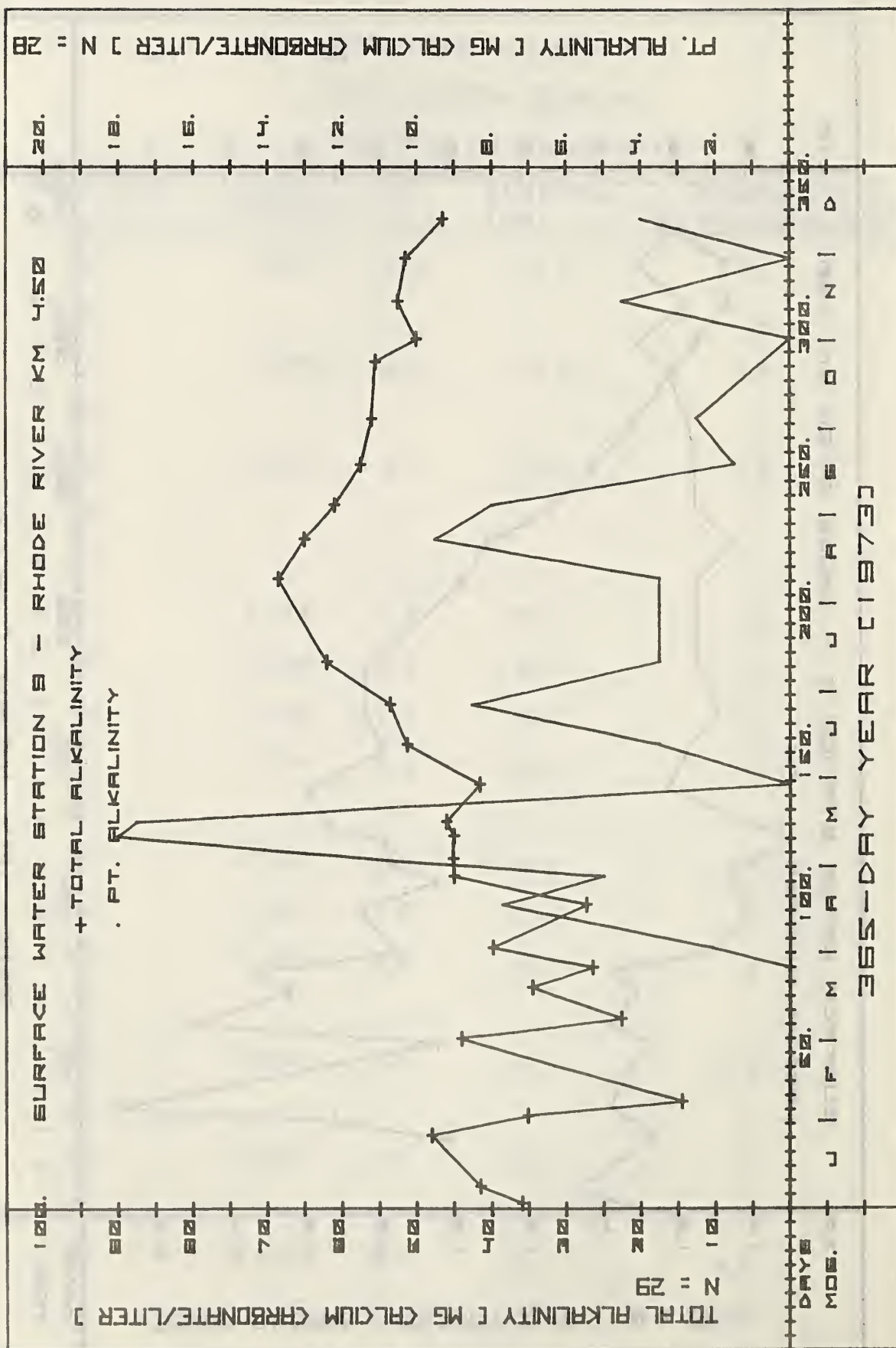
Surface Station 9 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0817	8.2	51.2	3.5
173	-	-	-	-
177	0.0770	8.6	53.5	8.5
184	-	-	-	-
192	0.0775	8.3	62.0	3.5
199	-	-	-	-
215	-	-	-	-
221	0.1030	8.3	68.5	3.5
235	0.1099	8.8	65.0	9.5
247	0.1268	8.3	61.0	8.0
261	0.1380	8.3	57.5	1.5
271	-	-	-	-
277	0.1493	8.2	56.0	2.5
297	0.1610	7.9	55.5	-
305	0.1662	7.5	50.0	0
311	-	-	-	-
318	0.1747	8.2	52.5	4.5
324	-	-	-	-
333	0.1746	7.5	51.5	0
341	-	-	-	-
347	0.1577	8.2	46.5	4.0
	N=27	N=29	N=29	N=28





Surface Water Station 10

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

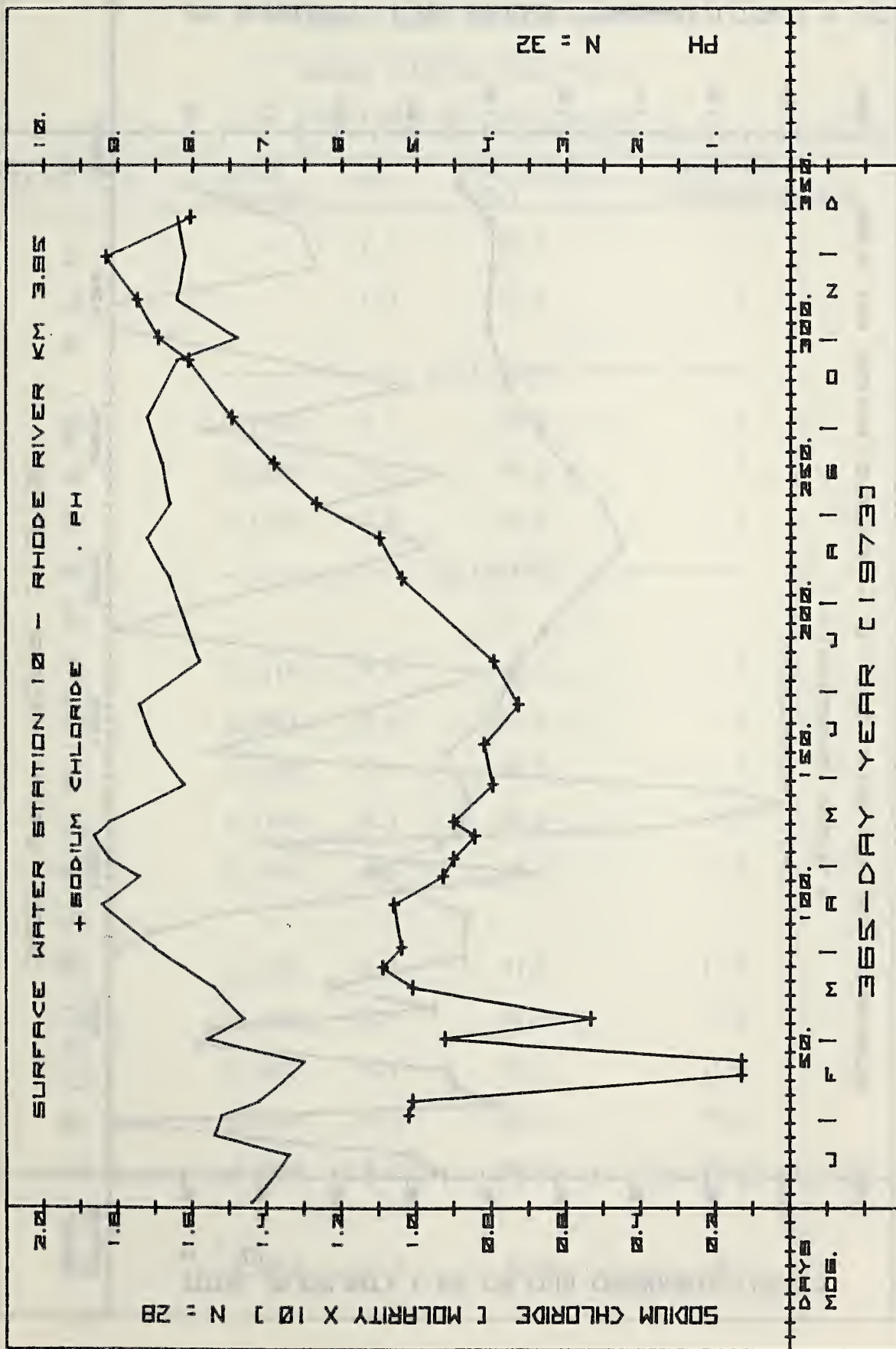
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.2	43.7	0
8	-	7.0	40.5	0
19	-	6.7	1.3	0
26	-	7.7	52.0	0
33	0.1020	7.6	46.2	0
38	0.1010	7.1	45.5	0
47	0.0130	6.7	12.3	0
52	0.0130	6.5	13.5	0
60	0.0924	7.8	43.5	0
67	0.0535	7.3	29.5	0
78	0.1010	7.7	47.5	0
85	0.1090	8.1	47.5	1.0
92	0.1040	8.5	48.0	2.7
103	-	-	-	-
107	0.1060	9.2	35.0	11.5
117	0.0930	8.7	44.0	4.0
123	0.0901	9.1	47.0	14.8
131	0.0845	9.3	48.0	18.0
136	0.0901	9.1	47.5	16.5
144	-	-	-	-
149	0.0797	8.1	45.0	2.5
159	-	-	-	-

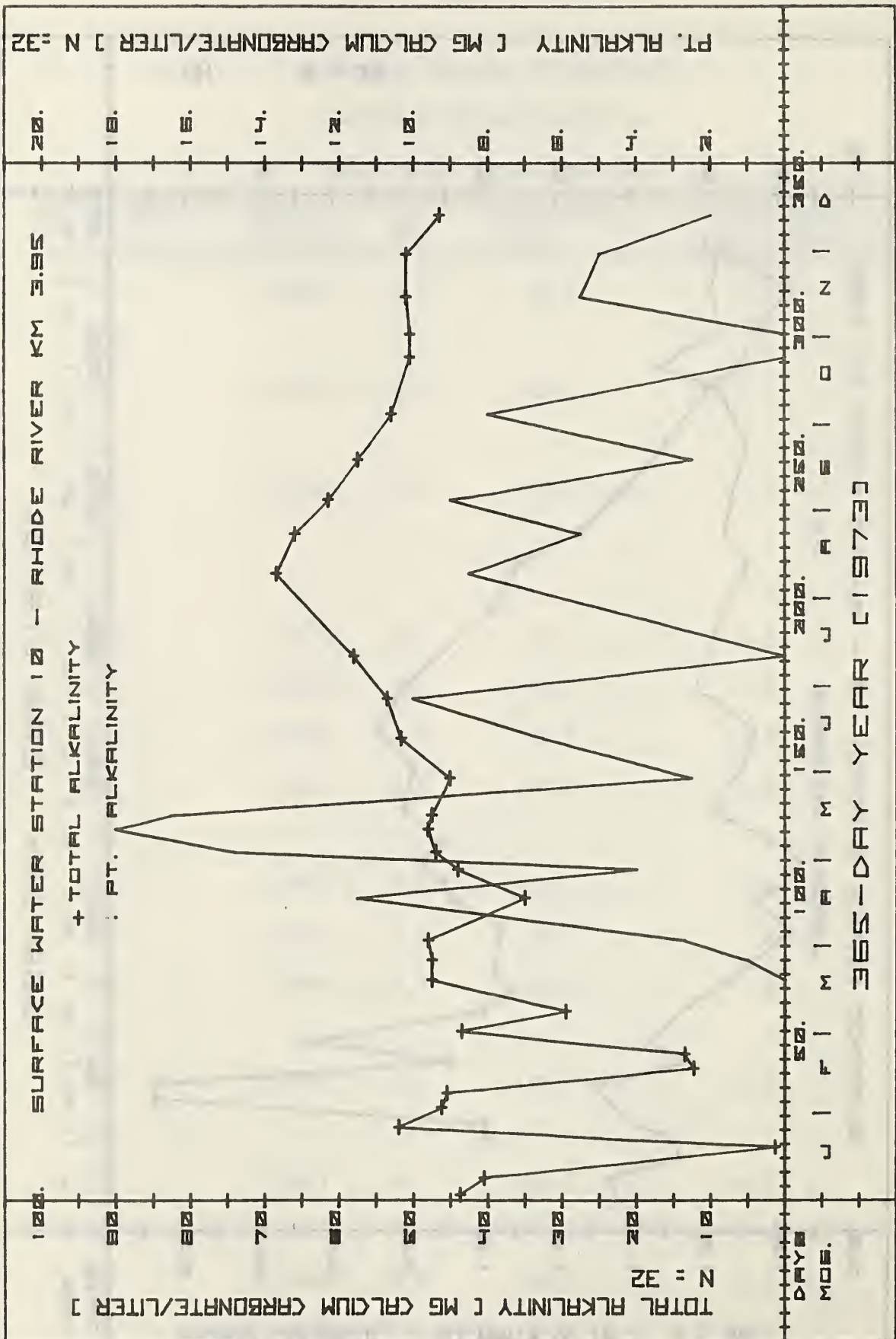
Surface Station 10 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0820	8.5	51.6	6.5
173	-	-	-	-
177	0.0728	8.7	53.5	10.0
184	-	-	-	-
192	0.0794	7.9	58.0	0
199	-	-	-	-
215	-	-	-	-
221	0.1040	8.3	68.5	8.5
235	0.1099	8.6	66.0	5.5
247	0.1268	8.3	61.5	9.0
261	0.1380	8.4	57.5	2.5
271	-	-	-	-
277	0.1493	8.6	53.0	8.0
297	0.1610	8.2	50.5	0
305	0.1690	7.4	50.5	0
311	-	-	-	-
318	0.1747	8.2	51.0	5.5
324	-	-	-	-
333	0.1831	8.1	51.0	5.0
341	-	-	-	-
347	0.1606	8.2	46.5	2.0
	N=28	N=32	N=32	N=32





Surface Water Station 11

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

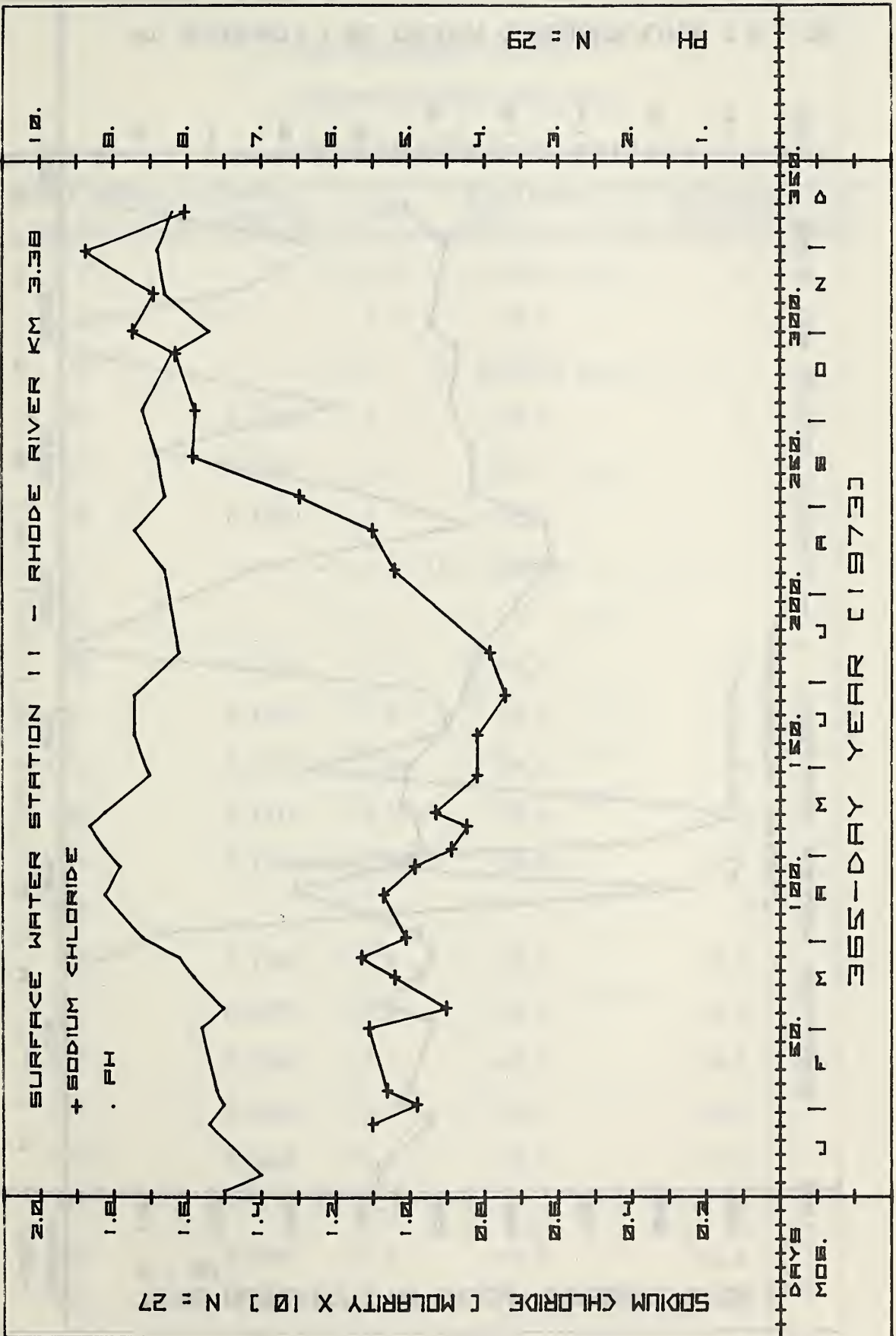
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.5	42.5	0
8	-	7.0	42.5	0
19	----- ICE COVERED -----			
26	0.1100	7.7	50.0	0
33	0.0980	7.5	45.3	0
38	0.1060	7.6	47.0	0
47	----- ICE COVERED -----			
52	" "			
60	0.1110	7.8	50.0	0
67	0.0901	7.5	43.5	0
78	0.1040	7.9	48.5	0
85	0.1130	8.1	50.0	1.5
92	0.1010	8.6	48.0	2.6
103	-	-	-	-
107	0.1070	9.1	31.5	17.0
117	0.0986	8.9	47.2	6.2
123	0.0887	9.1	48.2	15.5
131	0.0845	9.3	48.0	18.0
136	0.0930	9.1	46.0	17.0
144	-	-	-	-
149	0.0817	8.5	46.5	6.6
159	-	-	-	-

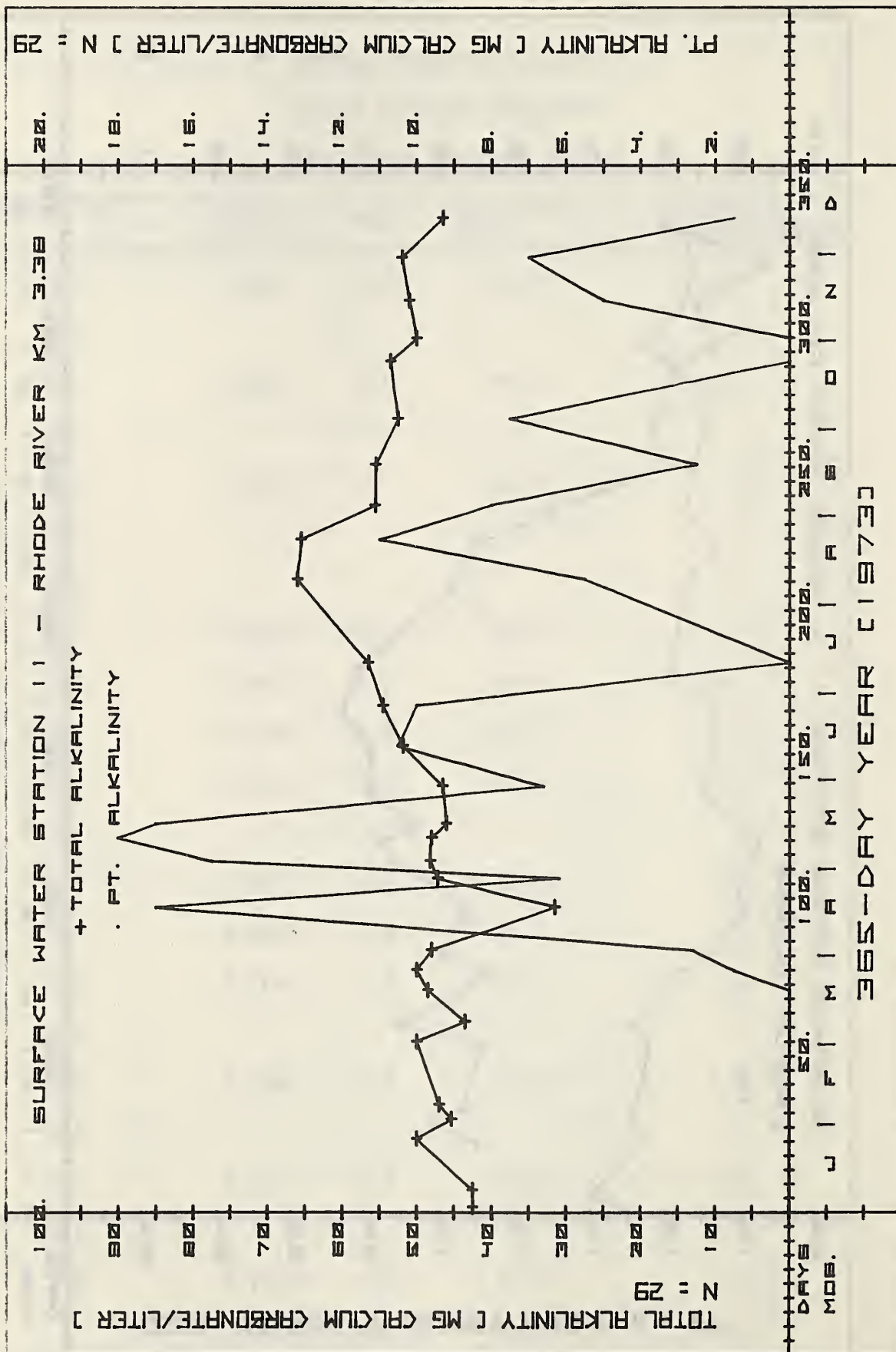
Surface Station 11 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0817	8.7	51.8	10.5
173	-	-	-	-
177	0.0742	8.7	54.5	10.0
184	-	-	-	-
192	0.0783	8.1	56.5	0
199	-	-	-	-
215	-	-	-	-
221	0.1040	8.3	66.0	5.5
235	0.1099	8.7	65.5	11.0
247	0.1296	8.3	55.6	8.0
261	0.1583	8.4	55.5	2.5
271	-	-	-	-
277	0.1577	8.6	52.5	7.5
297	0.1630	8.2	53.5	0
305	0.1746	7.7	50.0	0
311	-	-	-	-
318	0.1690	8.3	51.0	5.0
324	-	-	-	-
333	0.1873	8.4	52.0	7.0
341	-	-	-	-
347	0.1606	8.2	46.5	1.5
	N=27	N=29	N=29	N=29





Surface Water Station 12

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

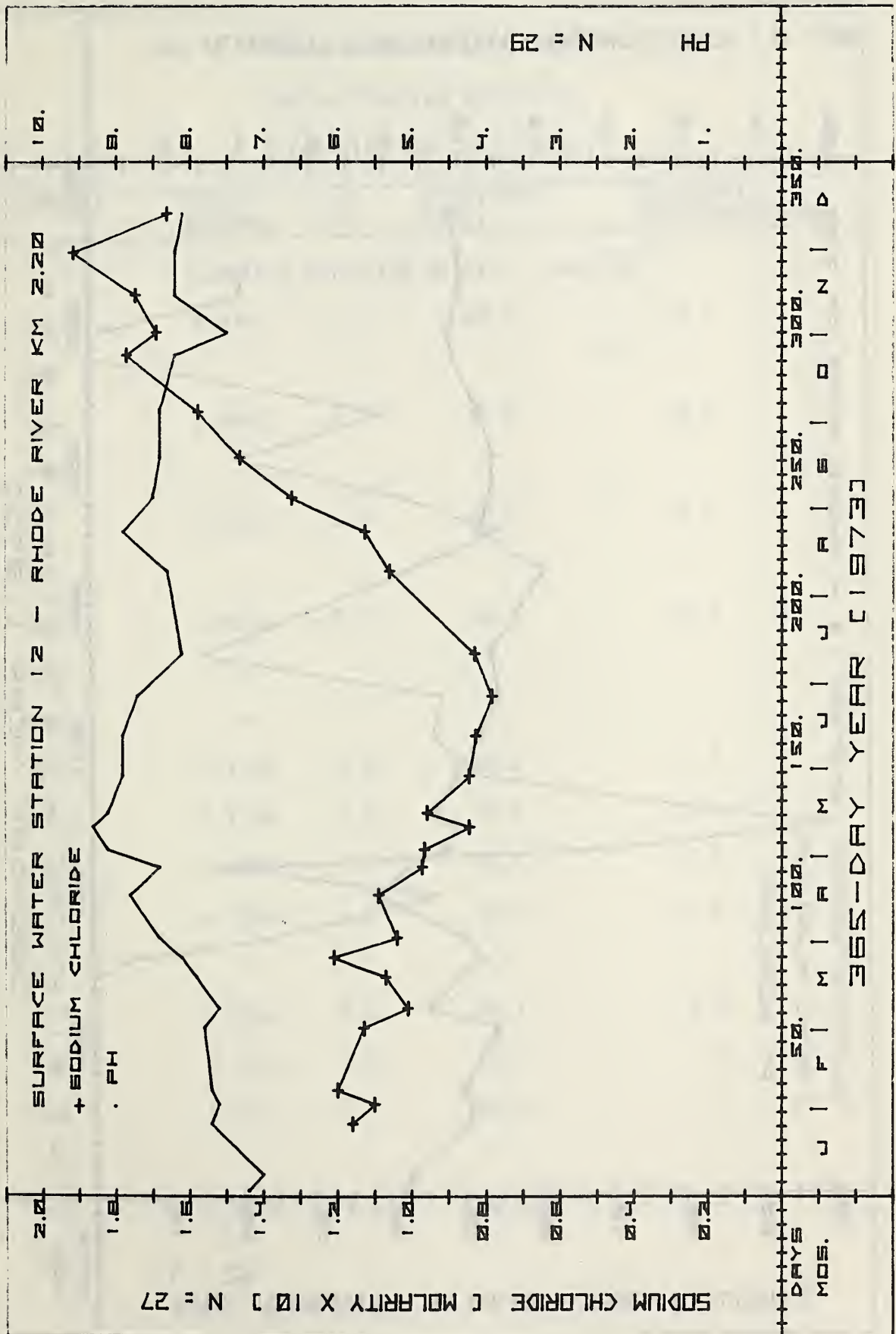
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.2	42.2	0
8	-	7.0	43.0	0
19	----- ICE COVERED -----			
26	0.1160	7.7	50.0	0
33	0.1100	7.6	51.2	0
38	0.1200	7.7	50.0	0
47	----- ICE COVERED -----			
52	" "			
60	0.1130	7.8	54.5	0
67	0.1010	7.6	45.5	0
78	0.1070	7.9	49.5	0
85	0.1210	8.1	52.5	1.0
92	0.1040	8.4	50.4	4.7
103	-	-	-	-
107	0.1090	8.8	38.4	9.4
117	0.0972	8.4	43.0	3.5
123	0.0966	9.1	48.0	14.1
131	0.0845	9.3	49.0	20.0
136	0.0958	9.1	46.5	17.0
144	-	-	-	-
149	0.0845	8.9	49.2	10.5
159	-	-	-	-

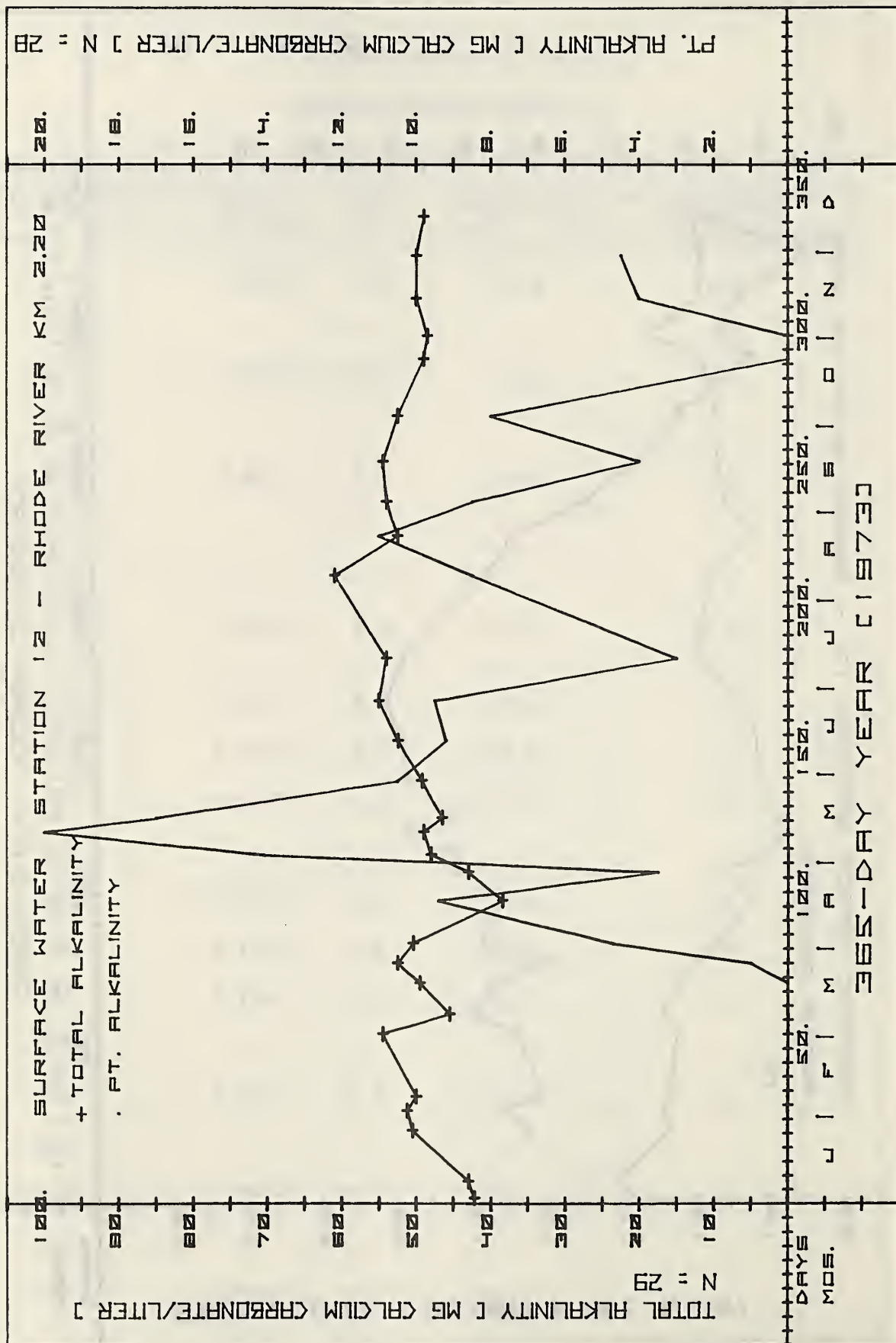
Surface Station 12 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0828	8.9	52.4	9.2
173	-	-	-	-
177	0.0784	8.7	55.0	9.5
184	-	-	-	-
192	0.0831	8.1	54.0	3.0
199	-	-	-	-
215	-	-	-	-
221	0.1060	8.3	61.0	8.5
235	0.1127	8.9	52.5	11.0
247	0.1324	8.5	54.0	8.5
261	0.1465	8.4	54.5	4.0
271	-	-	-	-
277	0.1577	8.4	52.5	8.0
297	0.1770	8.2	49.0	0
305	0.1690	7.5	48.5	0
311	-	-	-	-
318	0.1747	8.2	50.0	4.0
324	-	-	-	-
333	0.1915	8.2	50.0	4.5
341	-	-	-	-
347	0.1662	8.1	49.0	-
	N=27	N=29	N=29	N=28





Surface Water Station 12.5

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

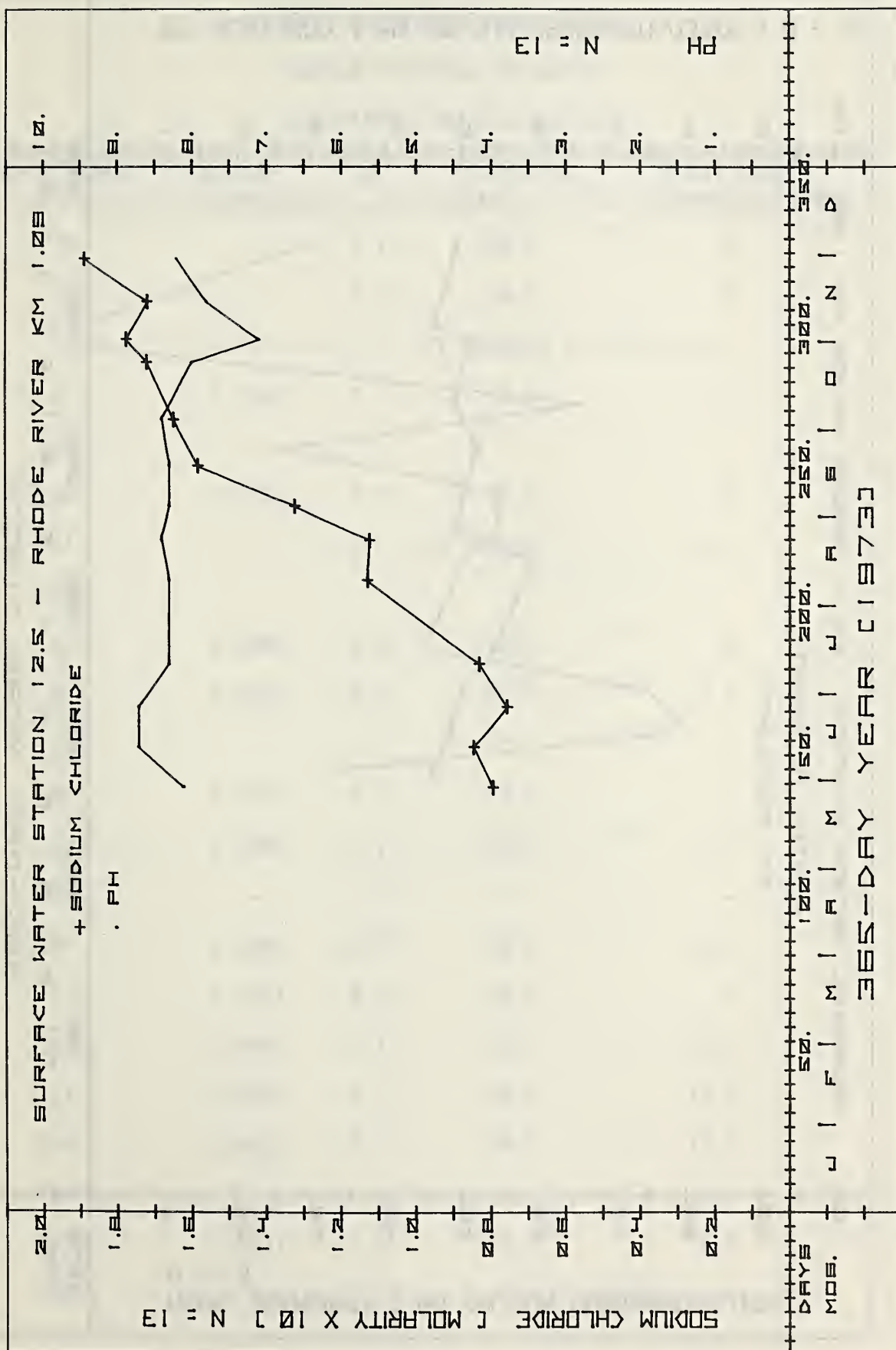
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
Sampling initiated 5/29/73 - Day 149				
149	0.0794	8.1	46.0	3.2
159	-	-	-	-
163	0.0845	8.7	48.5	8.0
173	-	-	-	-
177	0.0756	8.7	50.0	7.5
184	-	-	-	-
192	0.0831	8.3	54.5	4.5
199	-	-	-	-
215	-	-	-	-
221	0.1130	8.3	59.5	5.0
235	0.1124	8.4	49.5	5.5
247	0.1324	8.3	50.5	5.5
261	0.1583	8.3	52.0	2.5
271	-	-	-	-
277	0.1648	8.4	49.1	6.6
297	0.1720	8.0	50.8	0
305	0.1775	7.1	46.5	0
311	-	-	-	-
318	0.1718	7.8	48.0	-
324	-	-	-	-

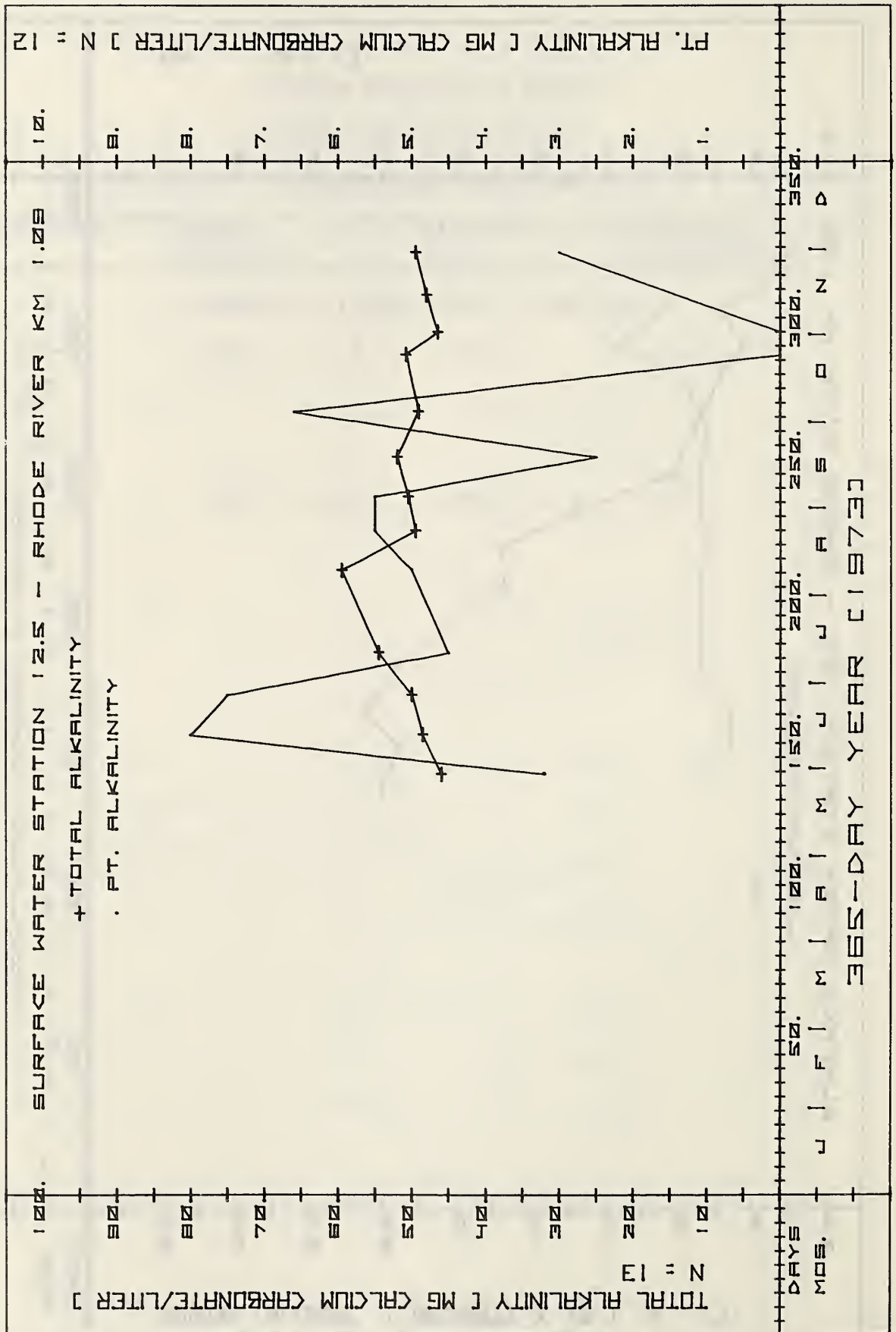
Surface Station 12.5 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO_3 /liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
Sampling initiated 5/29/73 - Day 149				
333	0.1887	8.2	49.5	3.0
341	-	-	-	-
347	-	-	-	-
	N=13	N=13	N=13	N=12





Surface Water Station 13

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

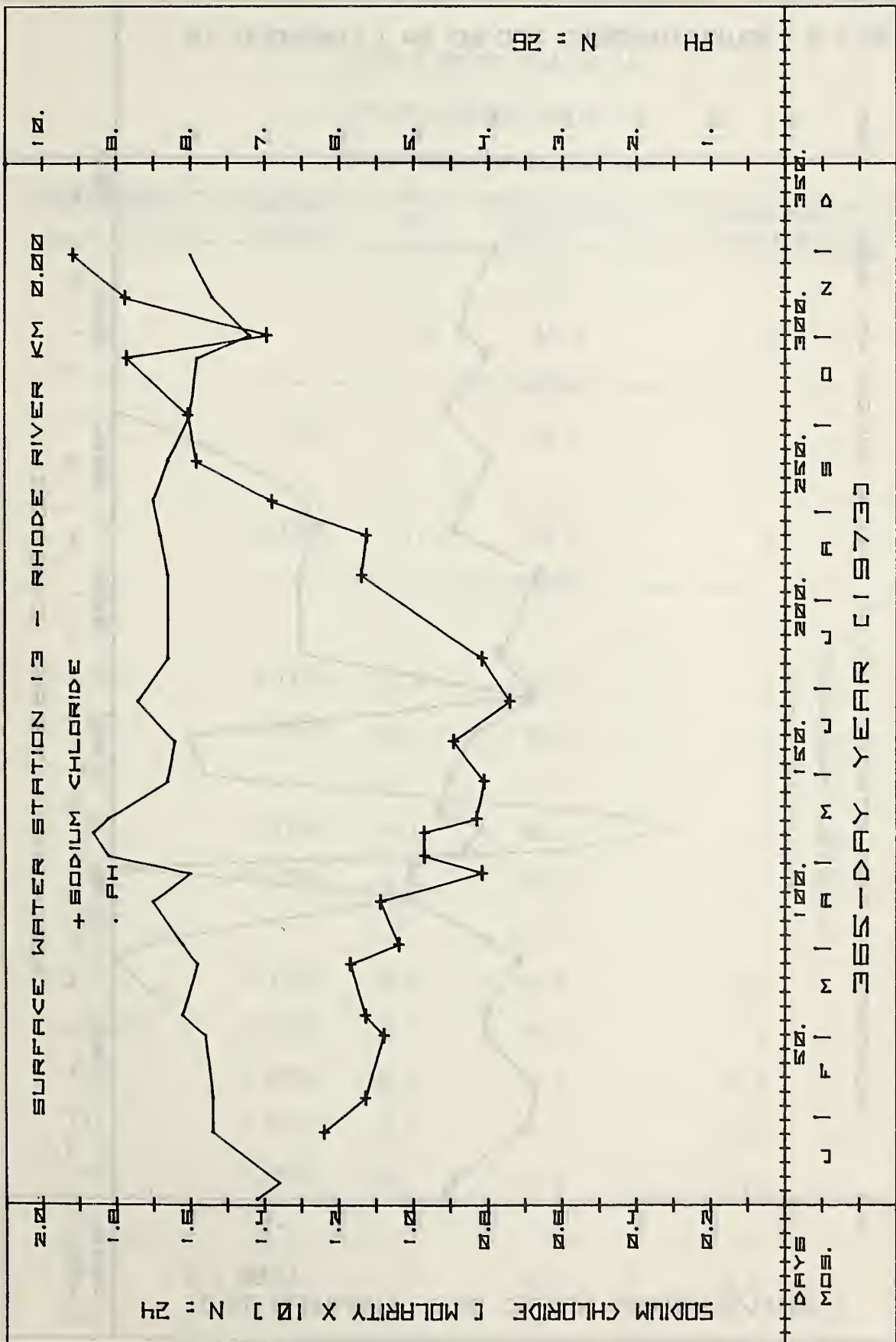
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.1	44.6	0
8	-	6.8	46.0	0
19	----- ICE COVERED -----			
26	0.1240	7.7	55.5	0
33	-	-	-	-
38	0.1130	7.7	57.0	0
47	----- ICE COVERED -----			
52		"	"	
60	0.1080	7.8	50.0	0
67	0.1130	8.1	50.4	1.6
78	-	-	-	-
85	0.1170	7.9	54.5	0
92	0.1040	8.1	50.2	1.5
103	-	-	-	-
107	0.1090	8.5	39.5	8.0
117	0.0817	8.0	40.0	0
123	0.0972	9.1	47.1	12.0
131	0.0972	9.3	49.5	15.0
136	0.0831	9.1	44.0	13.5
144	-	-	-	-
149	0.0811	8.3	45.0	2.5
159	-	-	-	-

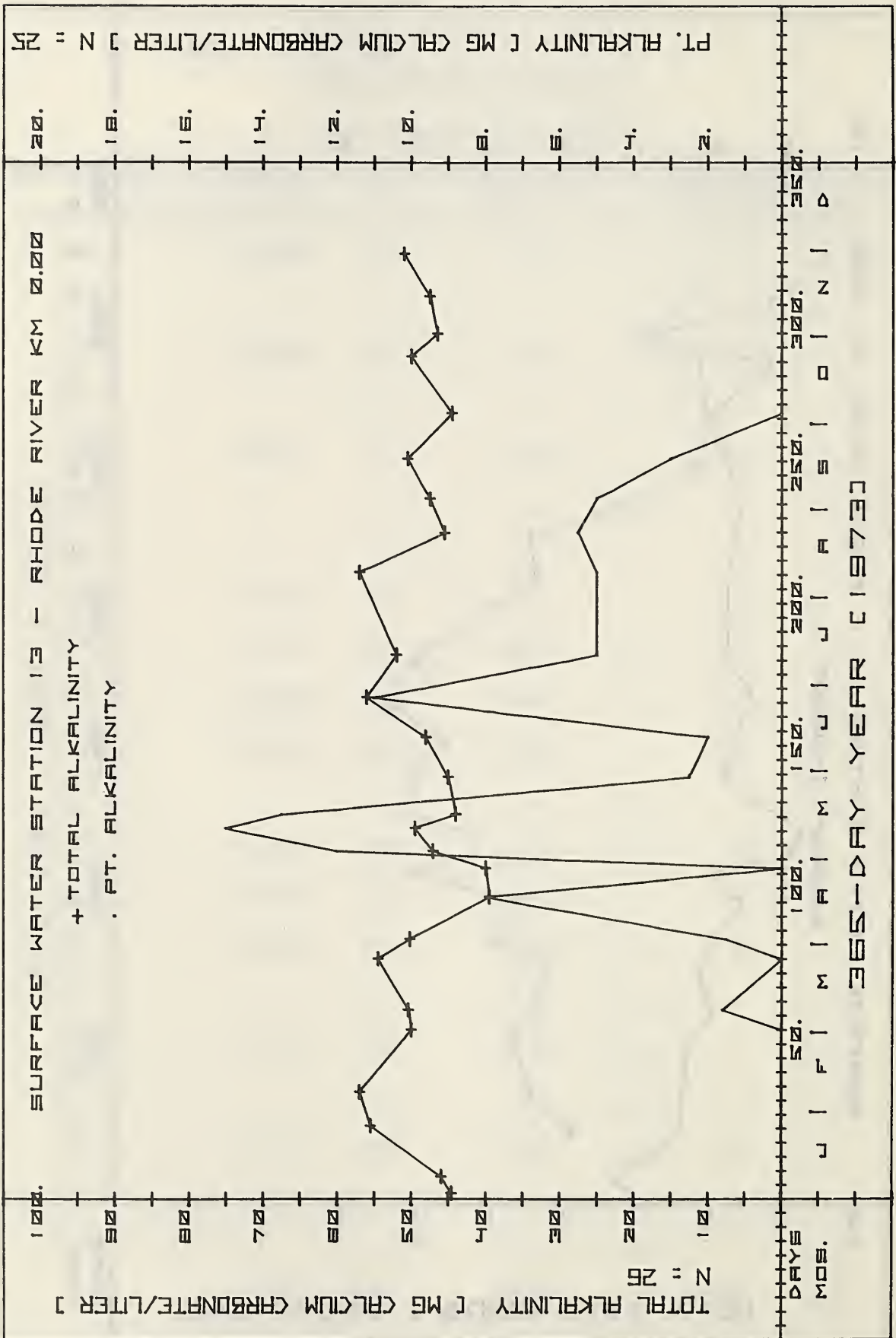
Surface Station 13 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0893	8.2	48.0	2.0
173	-	-	-	-
177	0.0742	8.7	56.0	11.0
184	-	-	-	-
192	0.0817	8.3	52.0	5.0
199	-	-	-	-
215	-	-	-	-
221	0.1140	8.3	57.0	5.0
235	0.1127	8.4	45.5	5.5
247	0.1380	8.5	47.5	5.0
261	0.1583	8.3	50.5	3.0
271	-	-	-	-
277	0.1606	8.0	44.5	0
297	0.1770	7.9	50.0	-
305	0.1394	7.2	46.5	0
311	-	-	-	-
318	0.1775	7.7	47.5	-
324	-	-	-	-
333	0.1915	8.0	51.0	0
341	-	-	-	-
347	-	-	-	-
	N=24	N=26	N=26	N=25





Surface Water Station 14

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

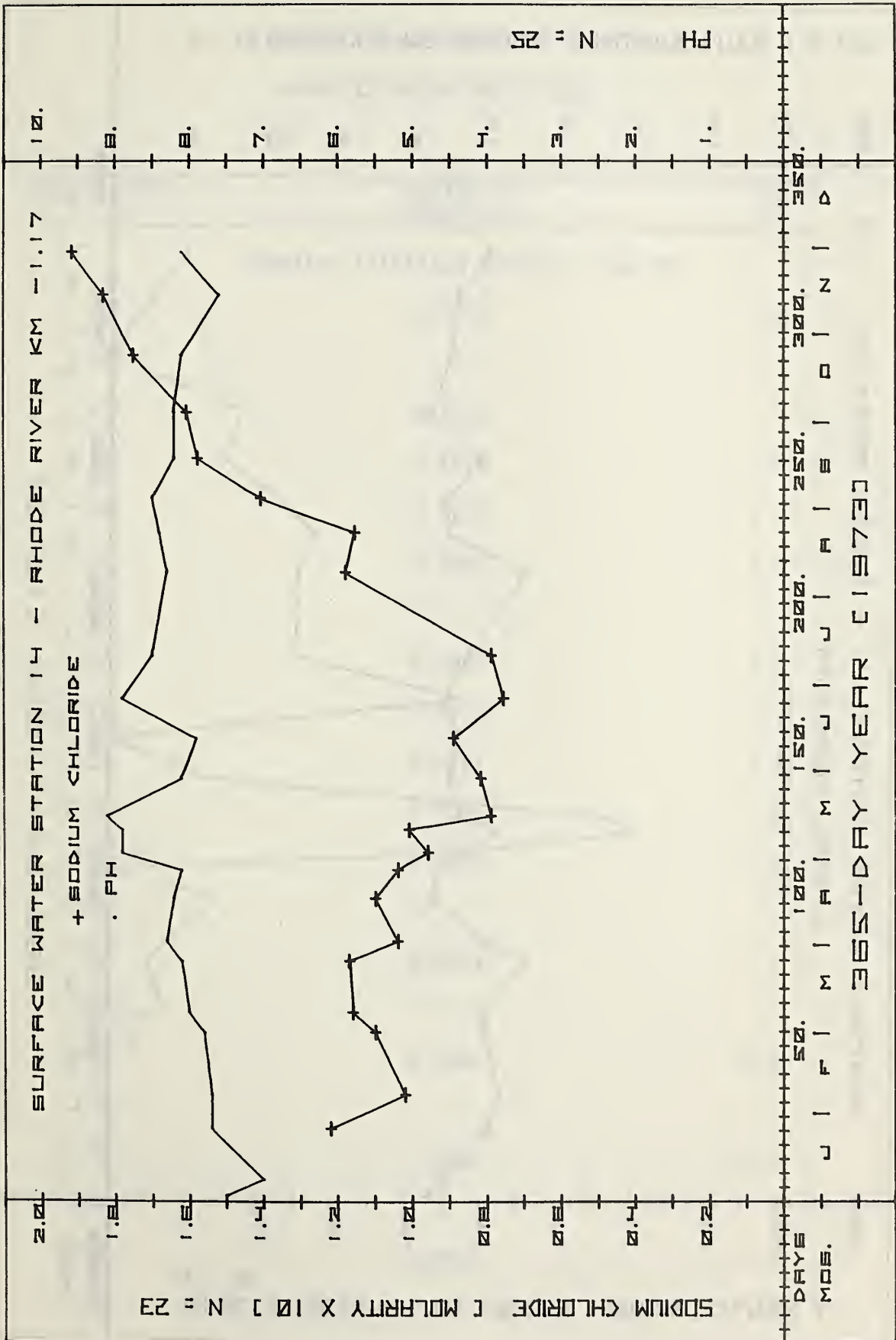
Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
2	-	7.5	43.2	0
8	-	7.0	45.0	0
19	----- ICE COVERED -----			
26	0.1220	7.7	51.0	0
33	-	-	-	-
38	0.1020	7.7	52.5	0
47	----- ICE COVERED -----			
52	" "			
60	0.1100	7.8	50.5	0
67	0.1160	8.0	50.2	1.5
78	-	-	-	-
85	0.1170	8.1	56.0	1.0
92	0.1040	8.3	50.5	1.6
103	-	-	-	-
107	0.1100	8.2	43.5	3.0
117	0.1040	8.1	44.0	0
123	0.0958	8.9	47.2	9.1
131	0.1010	8.9	52.0	14.0
136	0.0789	9.1	47.0	13.5
144	-	-	-	-
149	0.0817	8.1	45.6	2.5
159	-	-	-	-

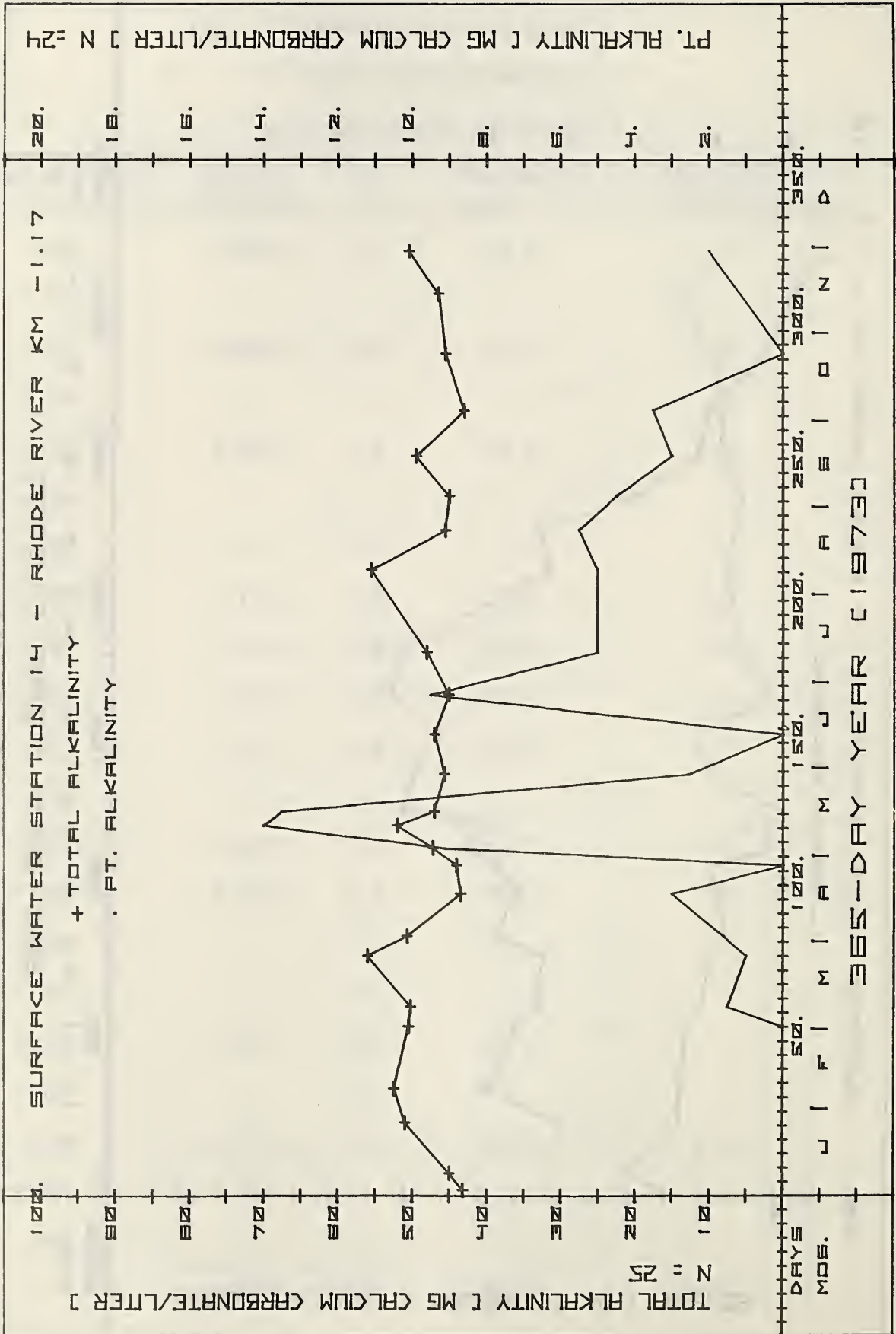
Surface Station 14 (Cont'd)

Sodium Chloride (Molarity)

Alkalinity (mg CaCO₃/liter)

Day of 1973	Sodium Chloride	pH	Alkalinity Total	Alkalinity Phenolphthalein
163	0.0890	7.9	47.0	0
173	-	-	-	-
177	0.0756	8.9	45.0	9.5
184	-	-	-	-
192	0.0789	8.5	48.0	5.0
199	-	-	-	-
215	-	-	-	-
221	0.1180	8.3	55.5	5.0
235	0.1155	8.4	45.5	5.5
247	0.1408	8.5	45.0	4.5
261	0.1577	8.2	49.5	3.0
271	-	-	-	-
277	0.1607	8.2	43.0	3.5
297	0.1750	8.1	45.5	0
305	-	-	-	-
311	-	-	-	-
318	0.1831	7.6	46.5	-
324	-	-	-	-
333	0.1915	8.1	50.5	2.0
341	-	-	-	-
347	-	-	-	-
	N=23	N=25	N=25	N=24





Bottom Water Station 10

Sodium Chloride (Molarity)

pH

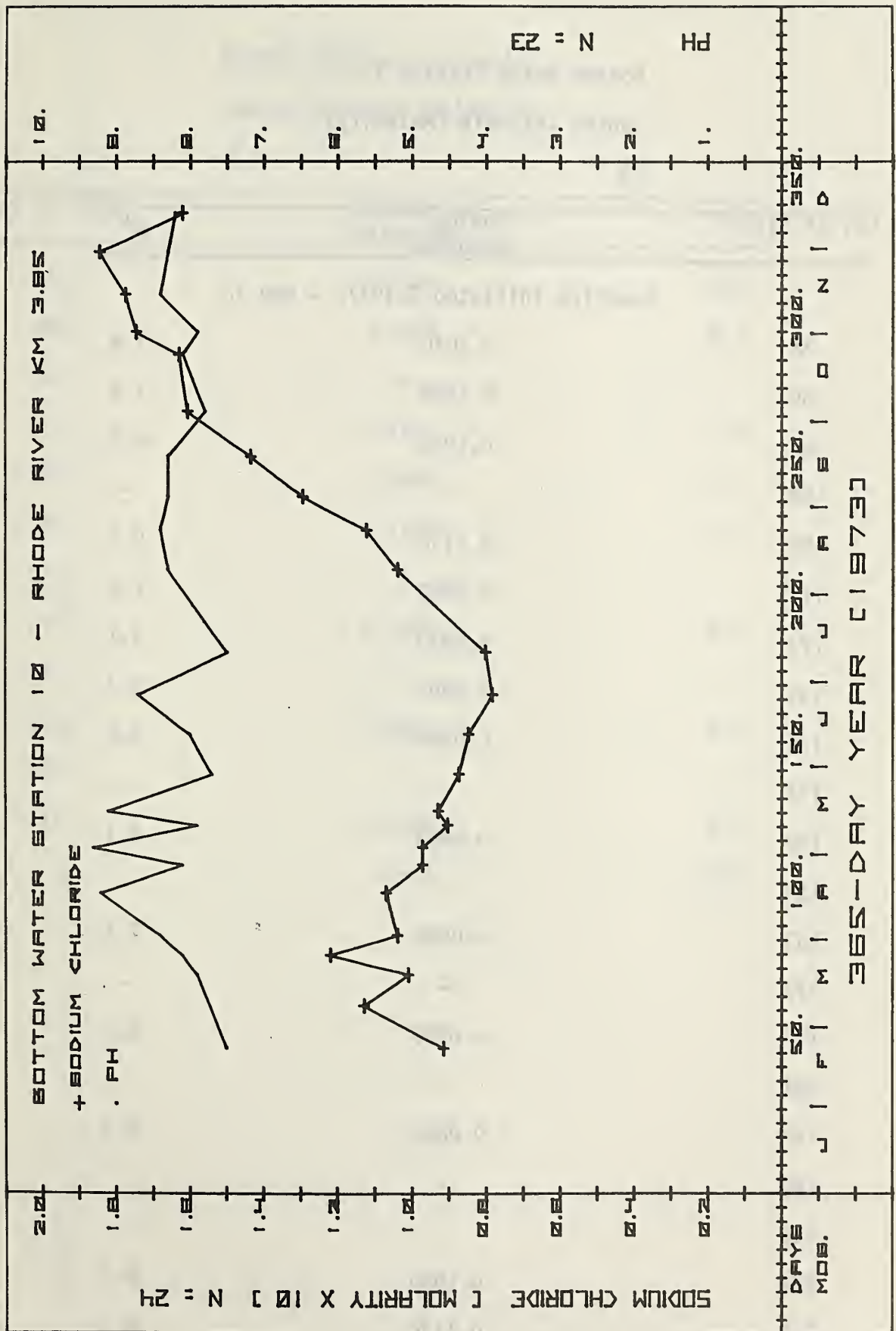
Day of 1973	Sodium Chloride	pH
Sampling initiated 2/21/73 - Day 52		
52	0.0915	7.5
60	-	-
67	0.1130	-
78	0.1010	7.9
85	0.1220	8.1
92	0.1040	8.4
103	-	-
107	0.1070	9.2
117	0.0972	8.1
123	0.0927	9.3
131	0.0904	7.9
136	0.0930	9.1
144	-	-
149	0.0873	7.7
159	-	-
163	0.0848	8.0
173	-	-
177	0.7840	8.7
184	-	-
192	0.0803	7.5
199	-	-

Bottom Station 10 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
215	-	-
221	0.1040	8.3
235	0.1124	8.4
247	0.1296	8.3
261	0.1437	8.3
271	-	-
277	0.1607	7.8
297	0.1630	8.1
305	0.1746	7.9
311	-	-
318	0.1775	8.4
324	-	-
333	0.1845	8.3
341	-	-
347	0.1620	8.2
	N=24	N=23



Bottom Water Station 11

Sodium Chloride (Molarity)

pH

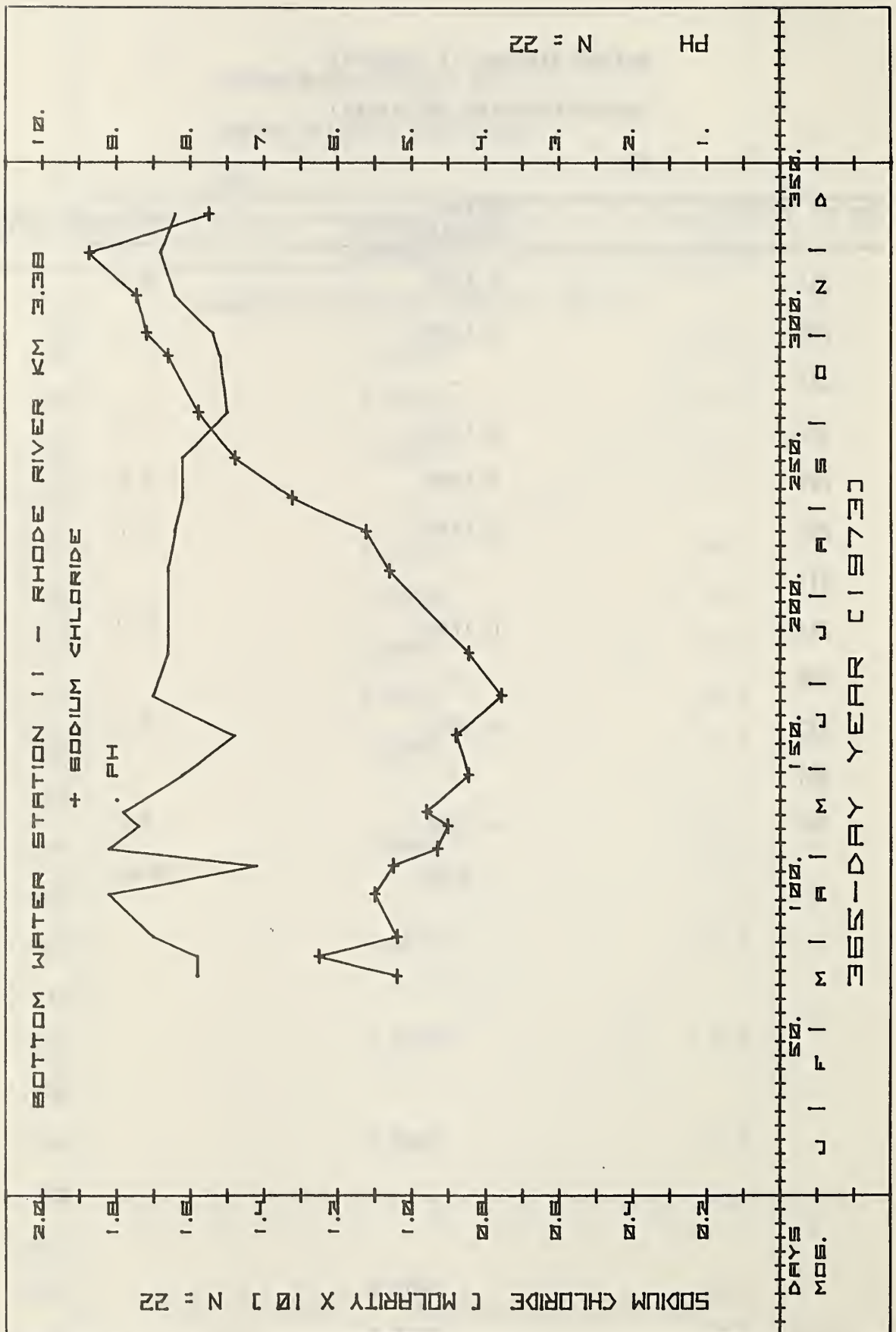
Day of 1973	Sodium Chloride	pH
Sampling initiated 3/19/73 - Day 78		
78	0.1040	7.9
85	0.1250	7.9
92	0.1040	8.5
103	-	-
107	0.1100	9.1
117	0.1050	7.1
123	0.0930	9.1
131	0.0901	8.7
136	0.0958	8.9
144	-	-
149	0.0845	8.1
159	-	-
163	0.0878	7.4
173	-	-
177	0.0756	8.5
184	-	-
192	0.0845	8.3
199	-	-
215	-	-
221	0.1060	8.3
235	0.1124	8.2

Bottom Station 11 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
247	0.1324	8.1
261	0.1479	8.1
271	-	-
277	0.1577	7.5
297	0.1660	7.6
305	0.1718	7.7
311	-	-
318	0.1745	8.2
324	-	-
333	0.1873	8.4
341	-	-
347	0.1549	8.2
	N=22	N=22



Bottom Water Station 12

Sodium Chloride (Molarity)

pH

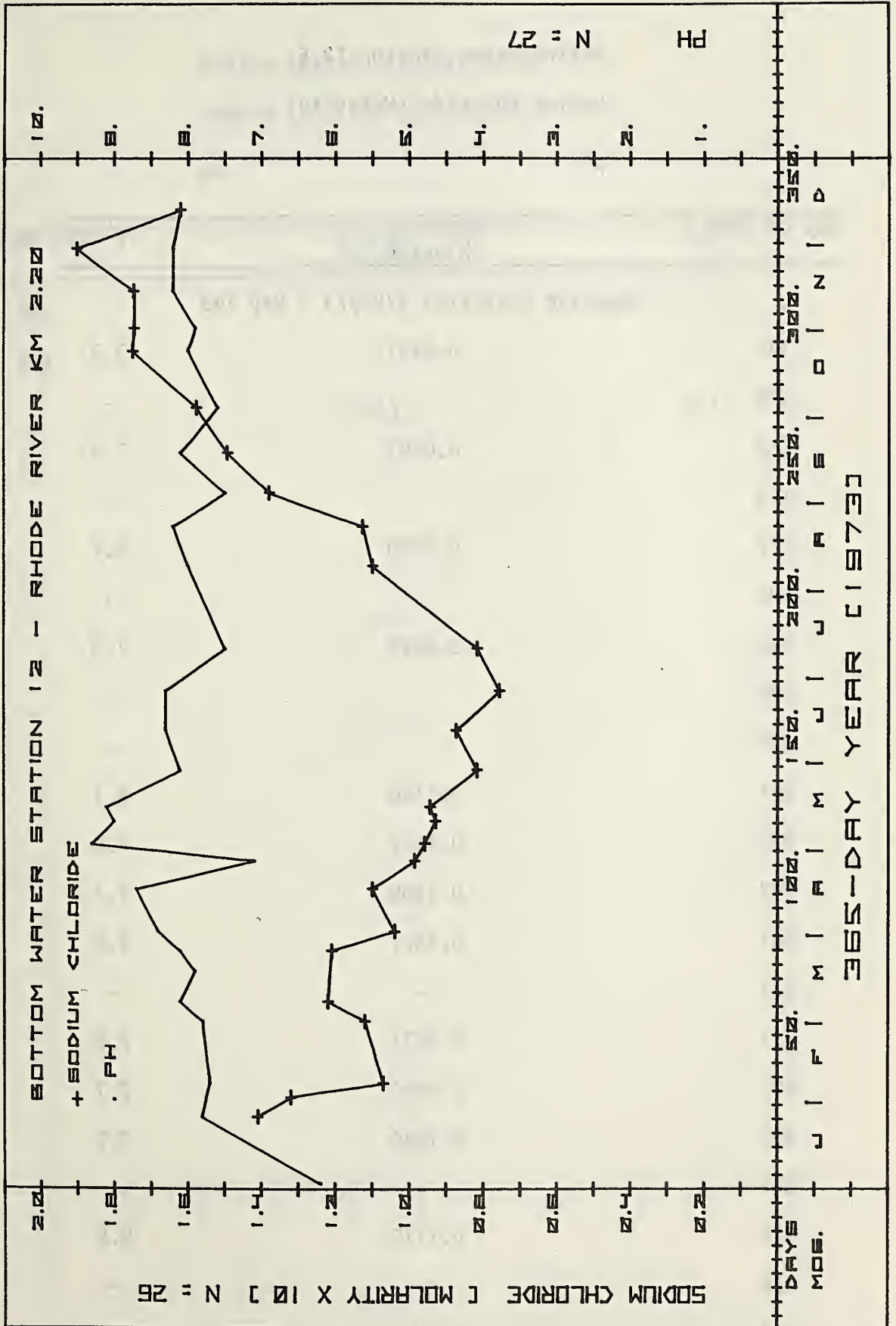
Day of 1973	Sodium Chloride	pH
2	-	6.2
8	-	-
19	-----ICE COVERED-----	-----
26	0.1410	7.8
33	0.1320	-
38	0.1070	7.7
47	-----ICE COVERED-----	-----
52	" "	
60	0.1120	7.8
67	0.1220	8.1
78	-	7.9
85	0.1210	8.1
92	0.1040	8.4
103	-	-
107	0.1100	8.7
117	0.0986	7.1
123	0.0958	9.3
131	0.0930	9.0
136	0.0944	9.1
144	-	-
149	0.0817	8.1
159	-	-

Bottom Station 12 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
163	0.0873	8.3
173	0.0756	8.3
184	-	-
192	0.0817	7.5
199	-	-
215	-	-
221	0.1100	8.0
235	0.1127	8.2
247	0.1380	7.5
261	0.1493	8.1
271	-	-
277	0.1577	7.6
297	0.1750	8.0
305	0.1746	7.9
311	-	-
318	0.1747	8.2
324	-	-
333	0.1901	8.2
341	-	-
347	0.1620	8.1
	N=26	N=27



Bottom Water Station 12.5

Sodium Chloride (Molarity)

pH

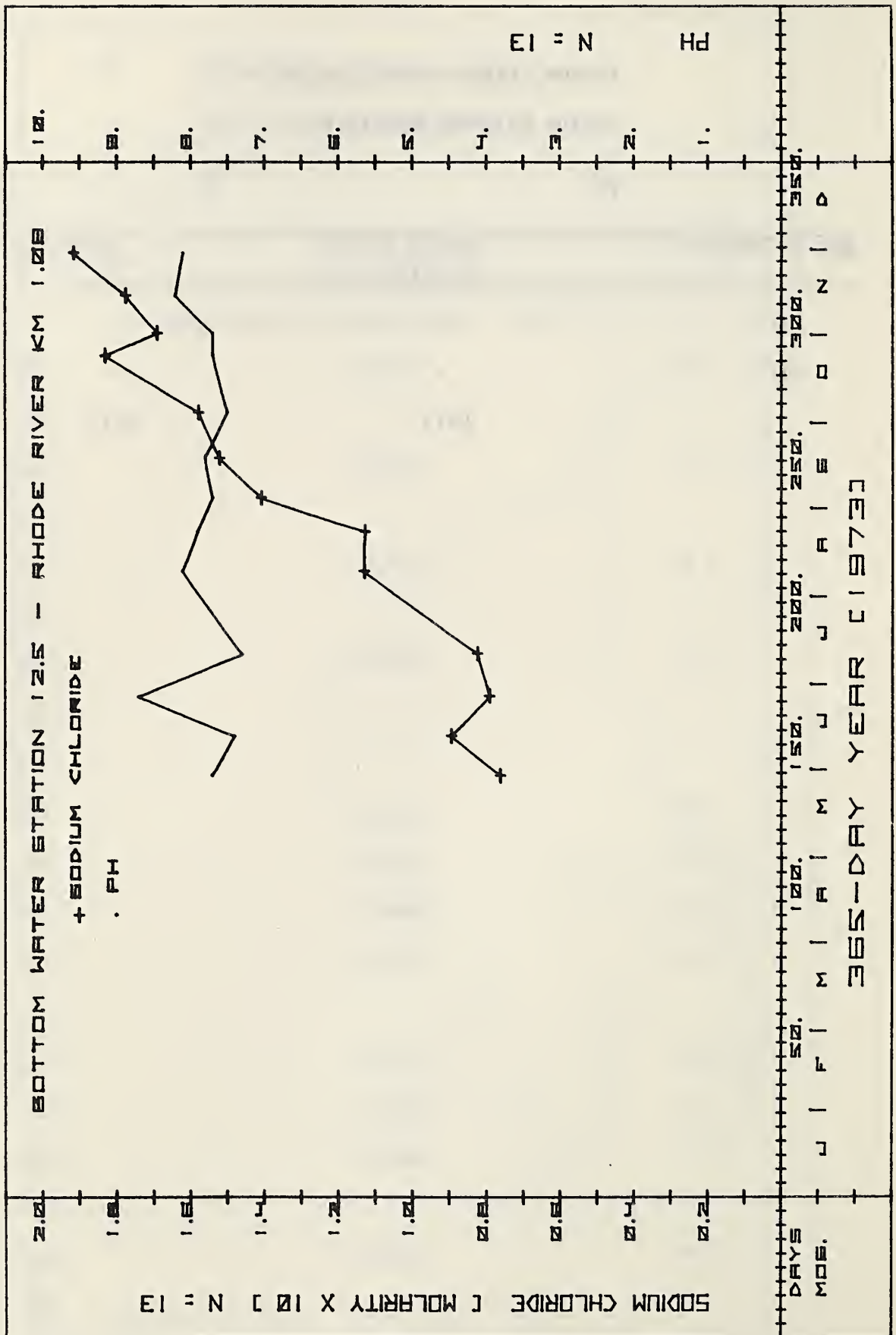
Day of 1973	Sodium Chloride	pH
Sampling initiated 5/29/73 - Day 149		
149	0.0761	7.7
159	-	-
163	0.0893	7.4
173	-	-
177	0.0790	8.7
184	-	-
192	0.0823	7.3
199	-	-
215	-	-
221	0.1130	8.1
235	0.1127	7.9
247	0.1408	7.7
261	0.1521	7.8
271	-	-
277	0.1577	7.5
297	0.1830	7.7
305	0.1690	7.7
311	-	-
318	0.1775	8.2
324	-	-
333	0.1915	8.1

Bottom Station 12.5 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
341	-	-
347	-	-
	N=13	N=13



Bottom Water Station 13

Sodium Chloride (Molarity)

pH

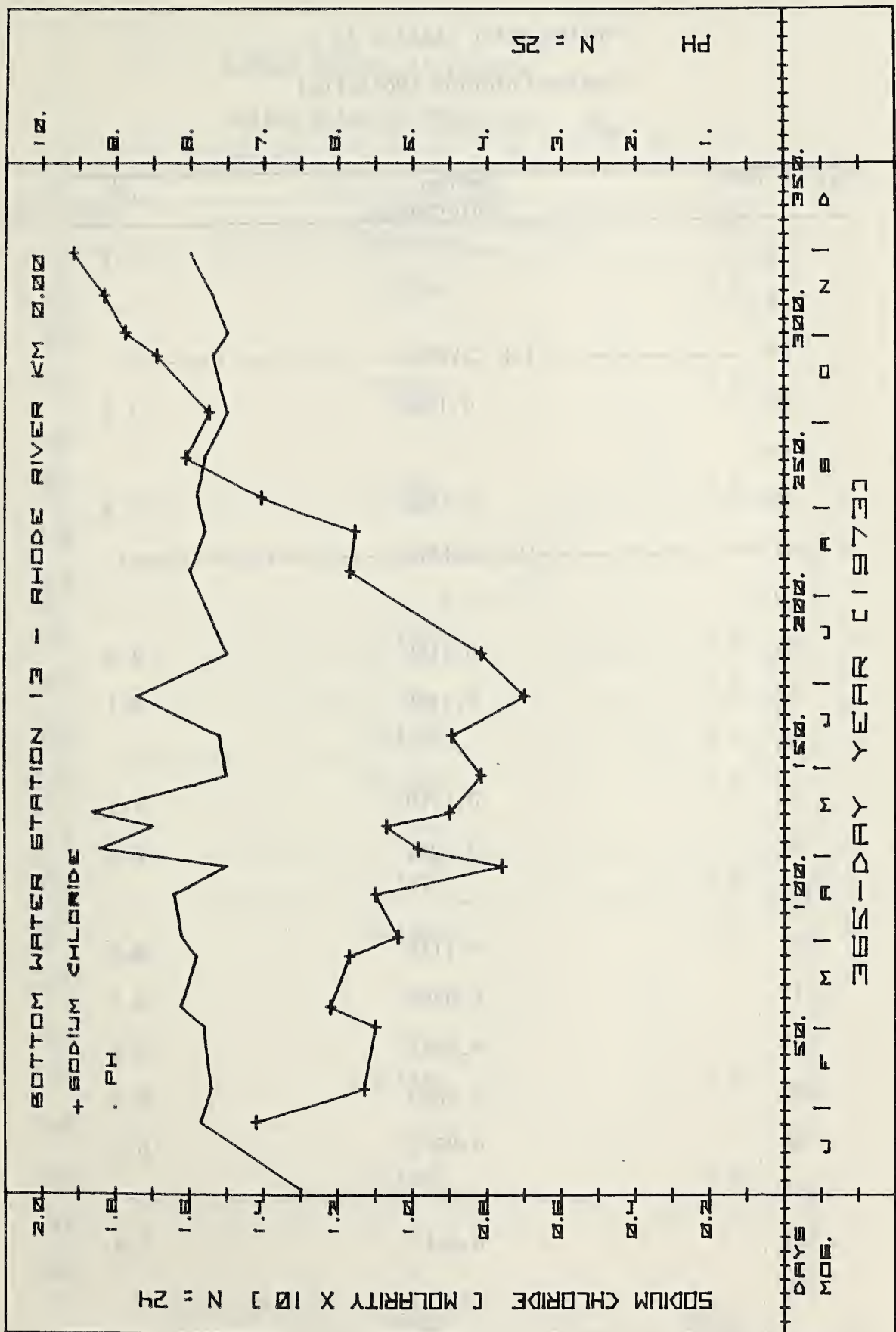
Day of 1973	Sodium Chloride	pH
2	-	6.5
8	-	-
19	-----ICE COVERED-----	
26	0.1420	7.8
33	-	-
38	0.1130	7.7
47	-----ICE COVERED-----	
52	" "	
60	0.1100	7.8
67	0.1220	8.1
78	-	-
85	0.1170	7.9
92	0.1040	8.1
103	-	-
107	0.1100	8.2
117	0.0761	7.5
123	0.0986	9.2
131	0.1070	8.5
136	0.0901	9.3
144	-	-
149	0.0817	7.5
159	-	-

Bottom Station 13 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
163	0.0896	7.6
173	-	-
177	0.0700	8.7
184	-	-
192	0.0817	7.5
199	-	-
215	-	-
221	0.1170	8.0
235	0.1155	7.8
247	0.1408	7.9
261	0.1611	7.8
271	-	-
277	0.1549	7.5
297	0.1690	7.7
305	0.1775	7.5
311	-	-
318	0.1831	7.7
324	-	-
333	0.1915	8.0
341	-	-
347	-	-
	N=24	N=25



Bottom Water Station 14

Sodium Chloride (Molarity)

p^H

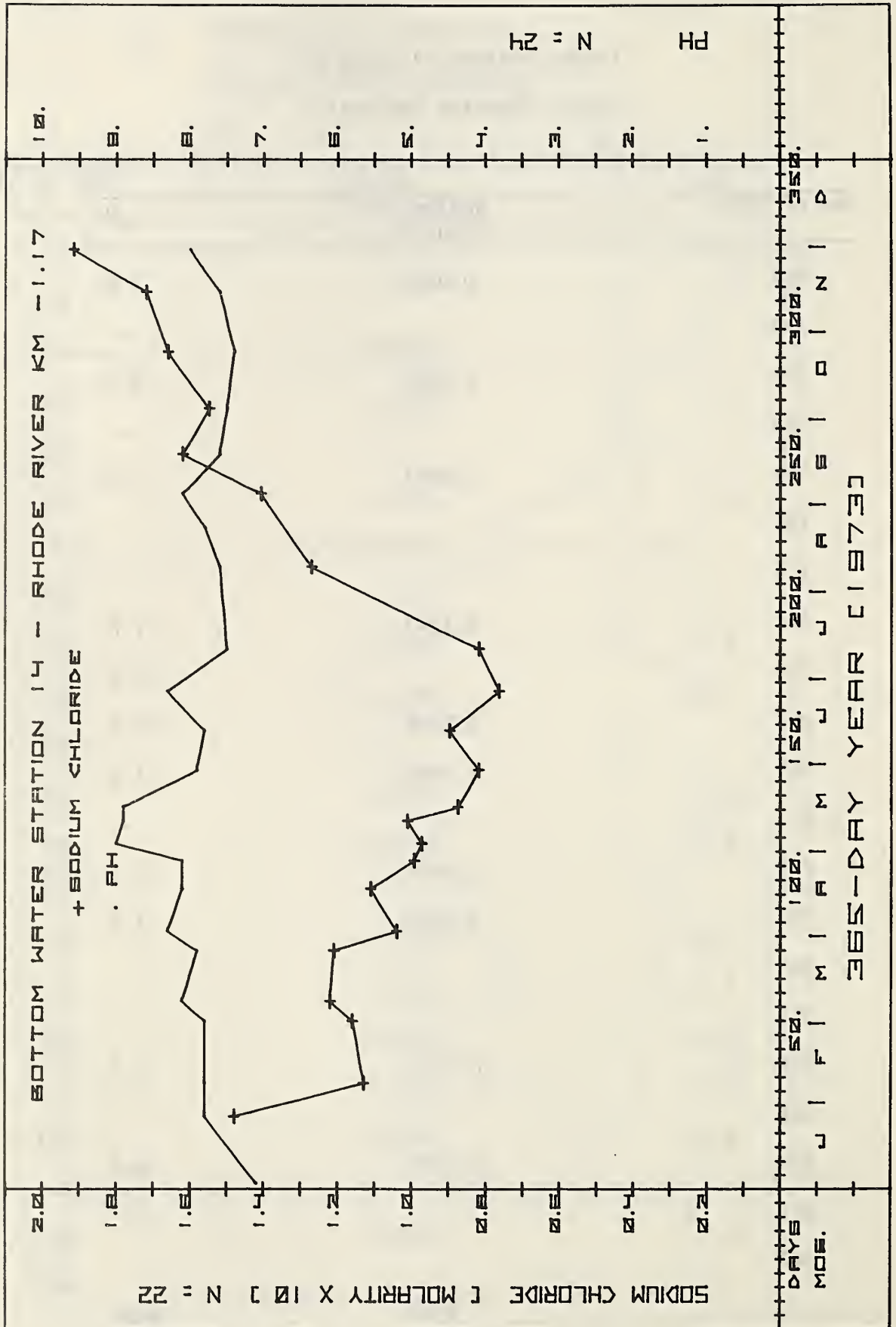
Day of 1973	Sodium Chloride	p ^H
2	-	7.1
8	-	-
19	-----ICE COVERED-----	
26	0.1480	7.8
33	-	-
38	0.1130	7.8
47	-----ICE COVERED-----	
52	" "	
60	0.1160	7.8
67	0.1220	8.1
78	-	-
85	0.1210	7.9
92	0.1040	8.3
103	-	-
107	0.1110	8.1
117	0.0992	8.1
123	0.0972	9.0
131	0.1010	8.9
136	0.0873	8.9
144	-	-
149	0.0817	7.9
159	-	-

Bottom Station 14 (Cont'd)

Sodium Chloride (Molarity)

pH

Day of 1973	Sodium Chloride	pH
163	0.0896	7.8
173	-	-
177	0.0762	8.3
184	-	-
192	0.0817	7.5
199	-	-
215	-	-
221	0.1270	7.6
235	-	7.8
247	0.1408	8.1
261	0.1620	7.6
271	-	-
277	0.1549	7.5
297	0.1660	7.4
305	-	-
311	-	-
318	0.1718	7.6
324	-	-
333	0.1915	8.0
341	-	-
347	-	-
	N=22	N=24



Surface and Bottom Water Stations (maps 2 and 3)

Temperature °C

Dissolved Oxygen (mg O₂/liter)

Temperature - Measured in the field using a centigrade thermometer.

Dissolved Oxygen - Samples were fixed in the field and titrated in the laboratory using the azide modification of the Winkler method (American Public Health Association, 1971. "Standard Methods for the Examination of Water and Waste Water". 13th ed. APHA, New York).

Principal Investigator: David L. Correll, Radiation Biology Laboratory, Smithsonian Institution.

Research Funding: Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Sciences Program.

Surface Water Station SL
and
Ground Water Station Spring (near sta. 7)
Temperature °C

Day of 1973	SL	Spring
26	0.5	-
33	-	-
38	-	-
47	-	-
52	3.0	-
60	-	-
67	-	-
78	-	-
85	-	-
92	-	-
103	-	-
107	12.6	-
117	-	-
123	-	-
131	-	-
136	13.0	-
144	-	-
149	18.0	-
159	-	-
163	22.5	16.0

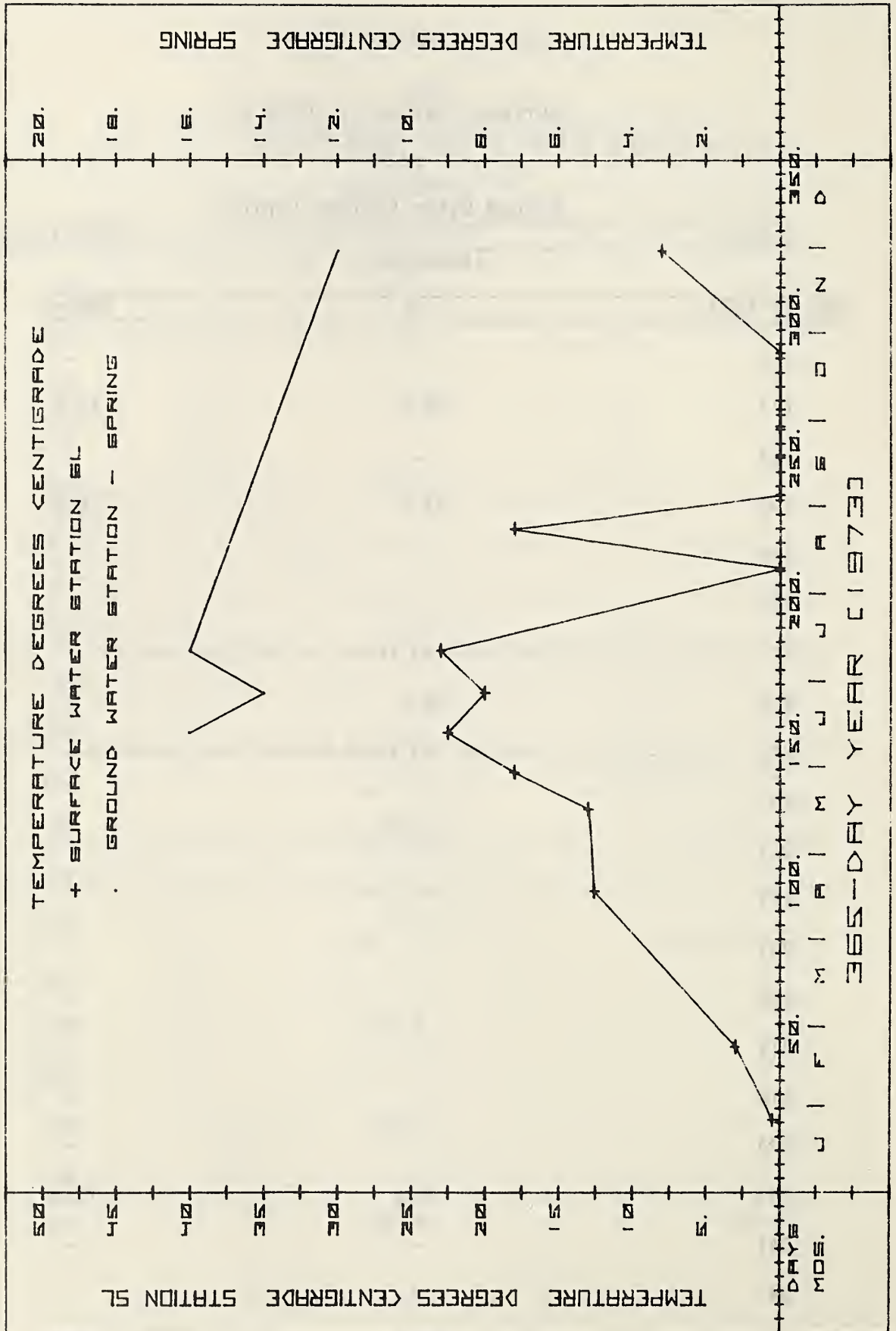
Surface Station SL (Cont'd)

and

Ground Water Station Spring

Temperature °C

Day of 1973	SL	Spring
173	-	-
177	20.0	14.0
184	-	-
192	23.0	16.0
199	-	-
215	-	-
221	----- NO FLOW -----	-----
235	18.0	-
247	----- NO FLOW -----	-----
261	" "	
271	" "	
277	" "	
297	" "	
305	-	-
311	-	-
318	-	-
324	-	-
333	8.0	12.0
341	-	-
347	-	-



Surface Water Stations 1-4

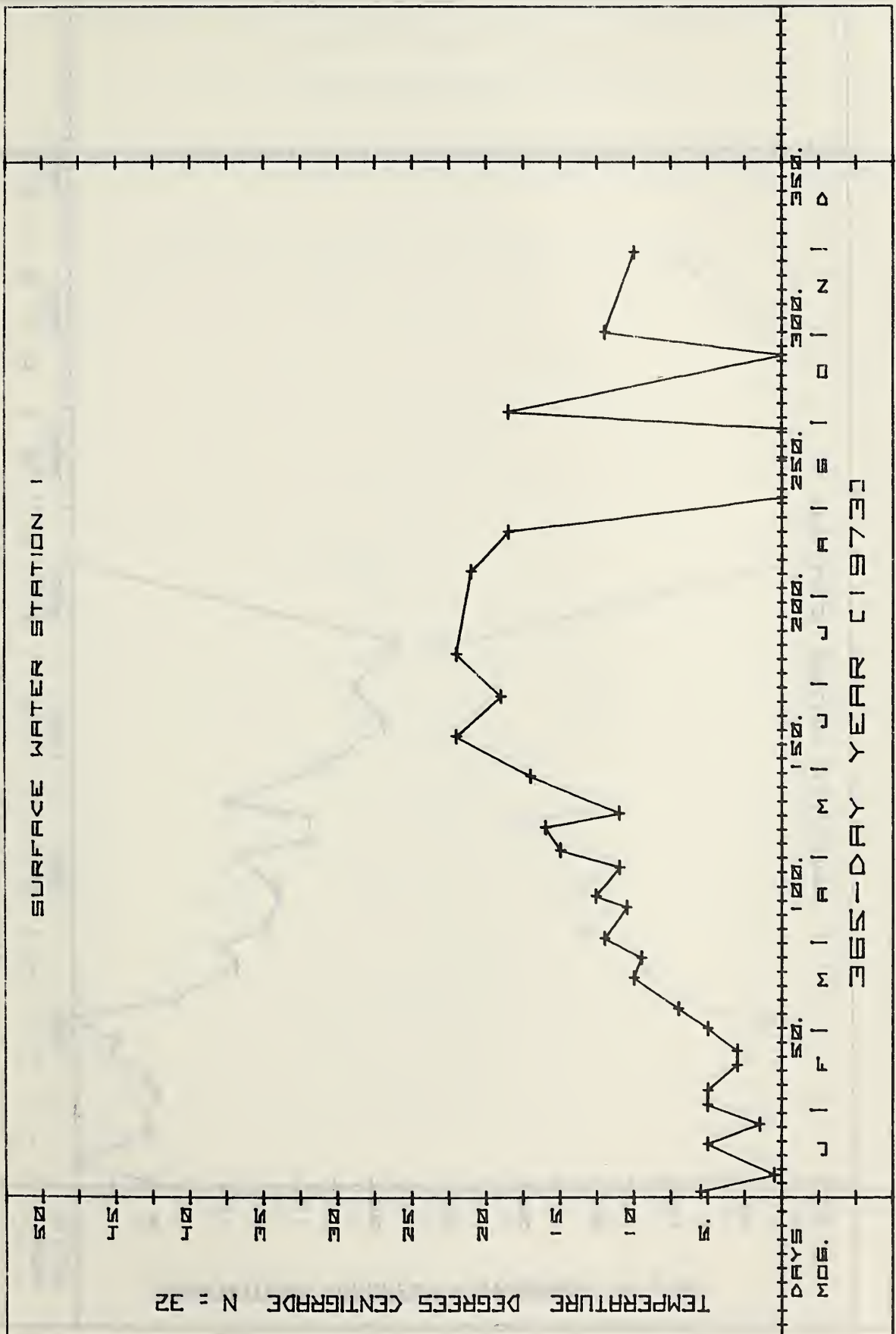
Temperature °C

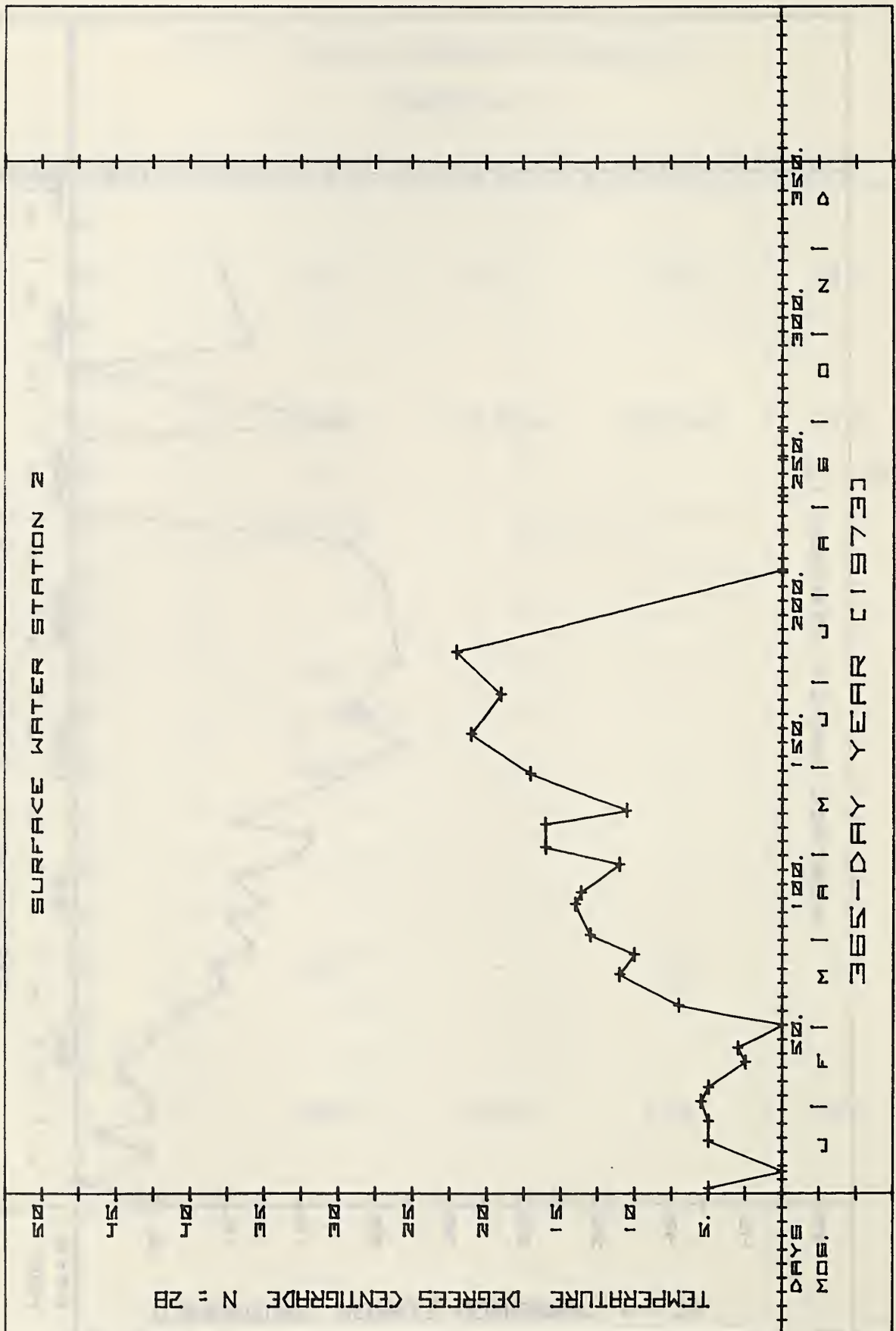
Day of 1973	1	2	3	4
2	5.5	5.0	5.5	6.0
8	0.5	0.0	0.0	7.5
19	5.0	5.0	4.5	4.5
26	1.5	0.5	1.0	1.5
33	5.0	5.5	5.0	5.0
38	5.0	5.0	5.0	5.0
47	3.0	2.5	2.5	3.0
52	3.0	3.0	3.0	3.0
60	5.0	0.0	0.5	0.5
67	7.0	7.0	7.0	7.0
78	10.0	11.0	9.0	8.0
85	9.5	10.0	9.5	9.0
92	12.0	13.0	13.0	13.0
103	10.5	14.0	11.5	10.5
107	12.6	13.6	13.7	12.6
117	11.0	11.0	11.0	11.0
123	15.0	16.0	15.0	15.0
131	16.0	16.0	17.0	15.5
136	11.0	10.5	11.5	11.0
144	-	-	-	-
149	17.0	17.0	17.0	16.5
159	-	-	-	-

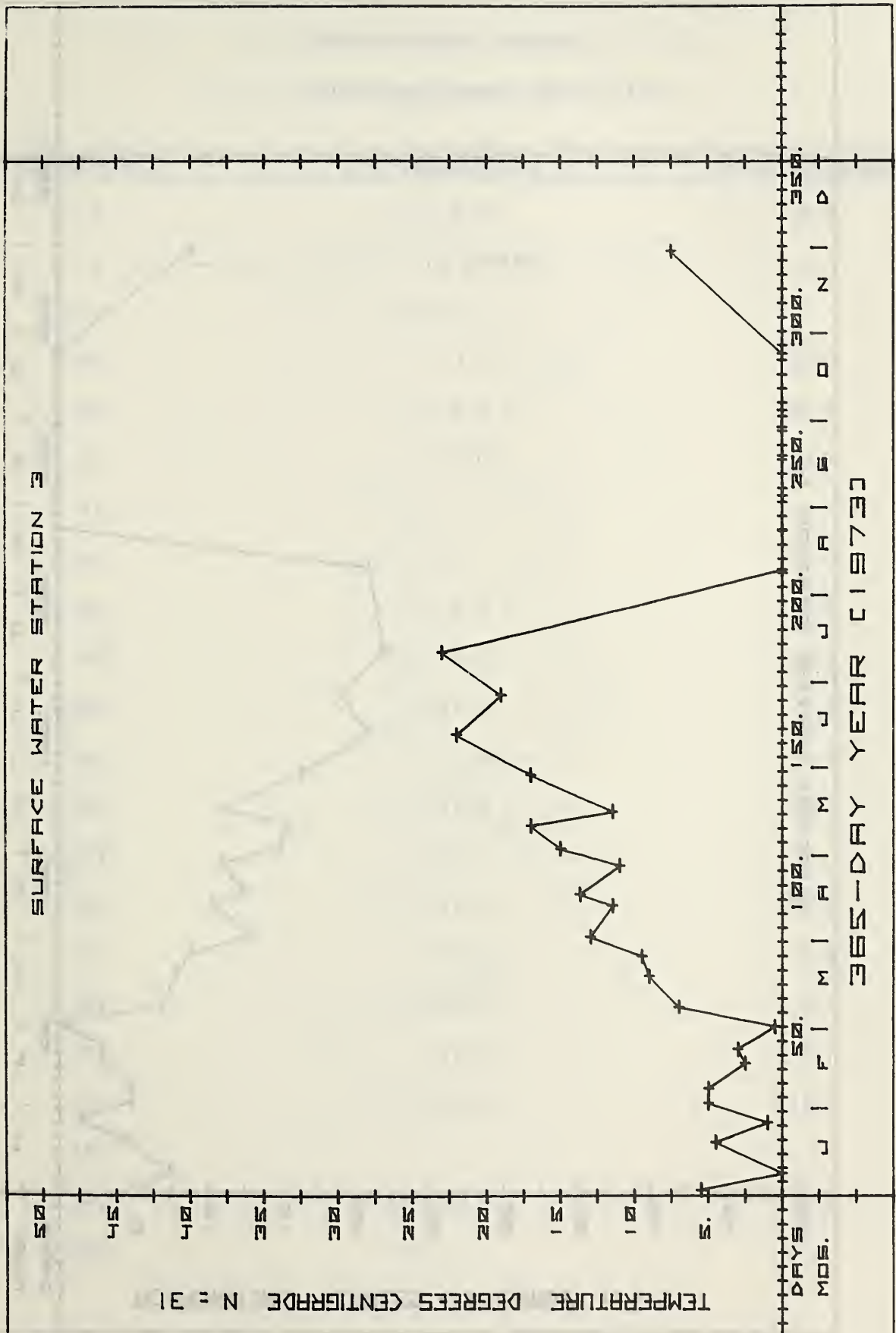
Surface Stations 1-4 (Cont'd)

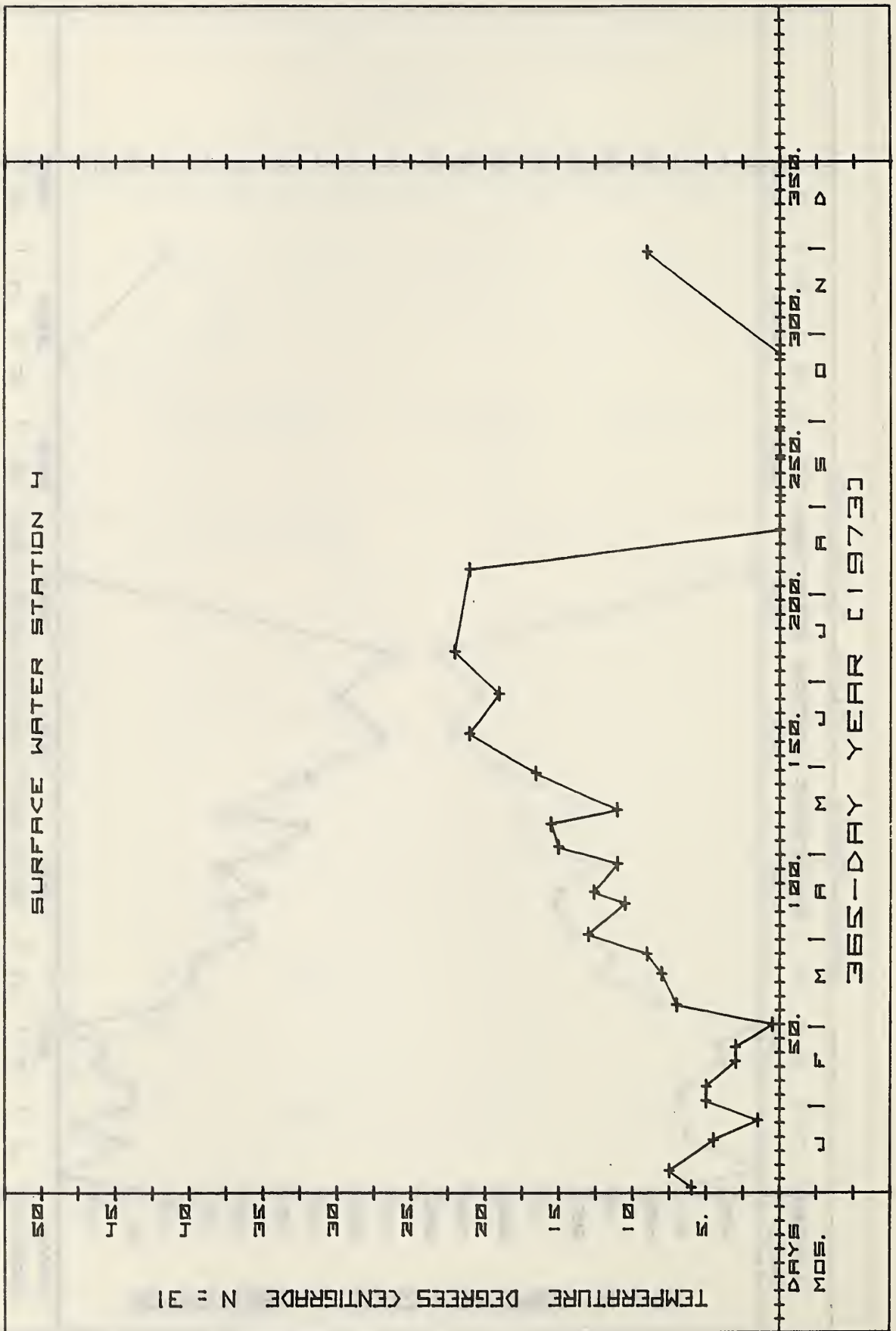
Temperature °C

Day of 1973	1	2	3	4
184	-	-	-	-
192	22.0	22.0	23.0	22.0
199	-	-	-	-
215	-	-	-	-
221	21.0	NO FLOW	NO FLOW	21.0
235	18.5	" "	" "	NO FLOW
247	NO FLOW	" "	" "	" "
261	" "	" "	" "	" "
271	" "	" "	" "	" "
277	18.5	" "	" "	" "
297	NO FLOW	" "	" "	" "
305	12.0	-	-	-
311	-	-	-	-
318	-	-	-	-
324	-	-	-	-
333	10.0	-	7.5	9.0
341	-	-	-	-
347	-	-	-	-
	N=32	N=28	N=31	N=31









Surface Water Station 5

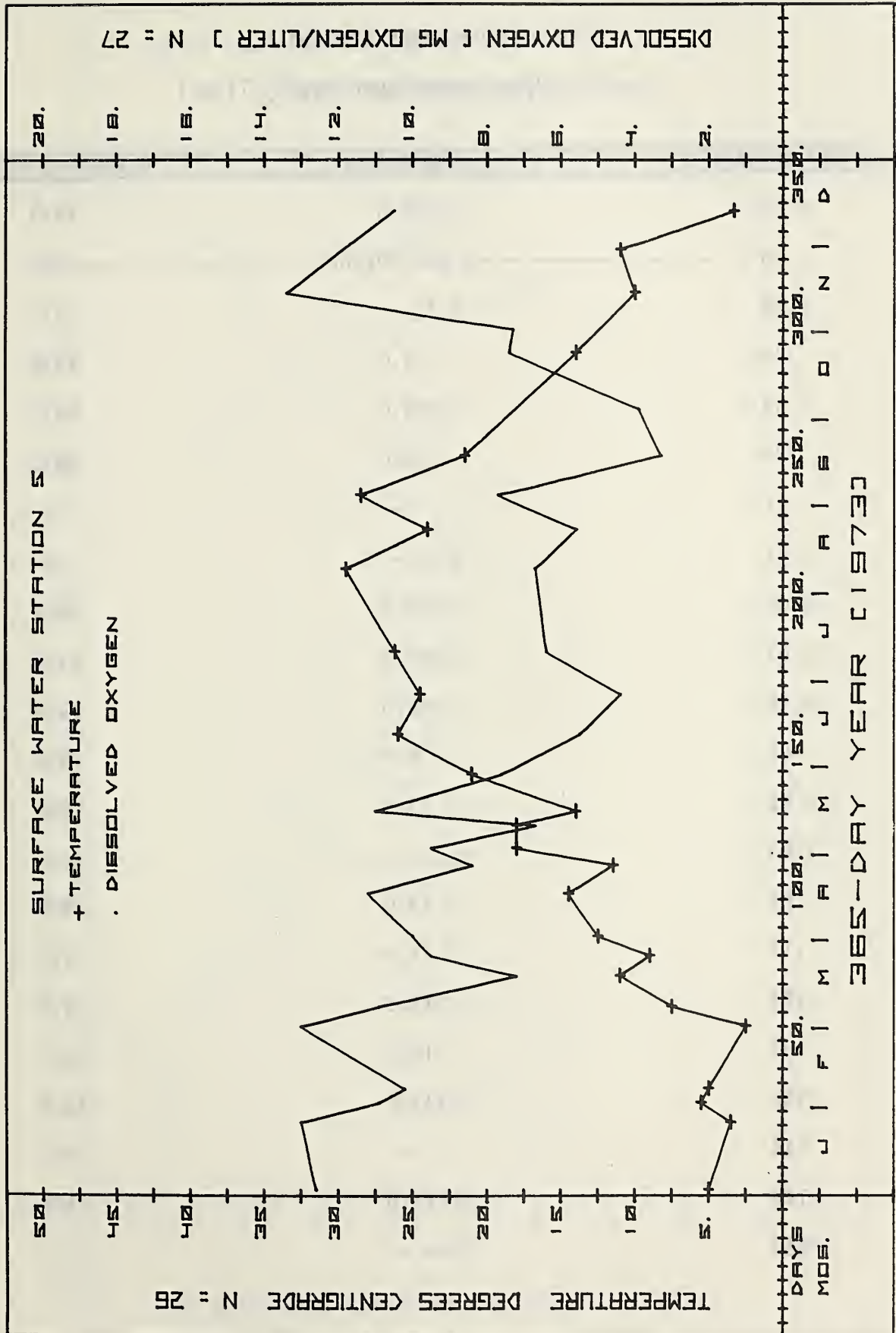
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	5.0	12.6
8	----- ICE COVERED -----	
19	" "	
26	3.5	13.0
33	5.5	10.9
38	5.0	10.2
47	-	-
52	-	-
60	2.5	13.0
67	7.5	10.9
78	11.0	7.2
85	9.0	9.5
92	12.5	10.0
103	-	-
107	14.5	11.2
117	11.5	8.4
123	18.0	9.5
131	18.0	6.7
136	14.0	11.0
144	-	-
149	21.0	7.6
159	-	-

Surface Station 5 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	26.0	5.5
173	-	-
177	24.5	4.4
184	-	-
192	26.2	6.4
199	-	-
215	-	-
221	29.5	6.7
235	24.0	5.6
247	28.5	7.7
261	21.5	3.3
271	-	-
277	-	3.9
297	14.0	7.4
305	-	7.3
311	-	-
318	10.0	13.4
324	-	-
333	11.0	-
341	-	-
347	3.3	10.5
	N=26	N=27



Surface Water Station 6

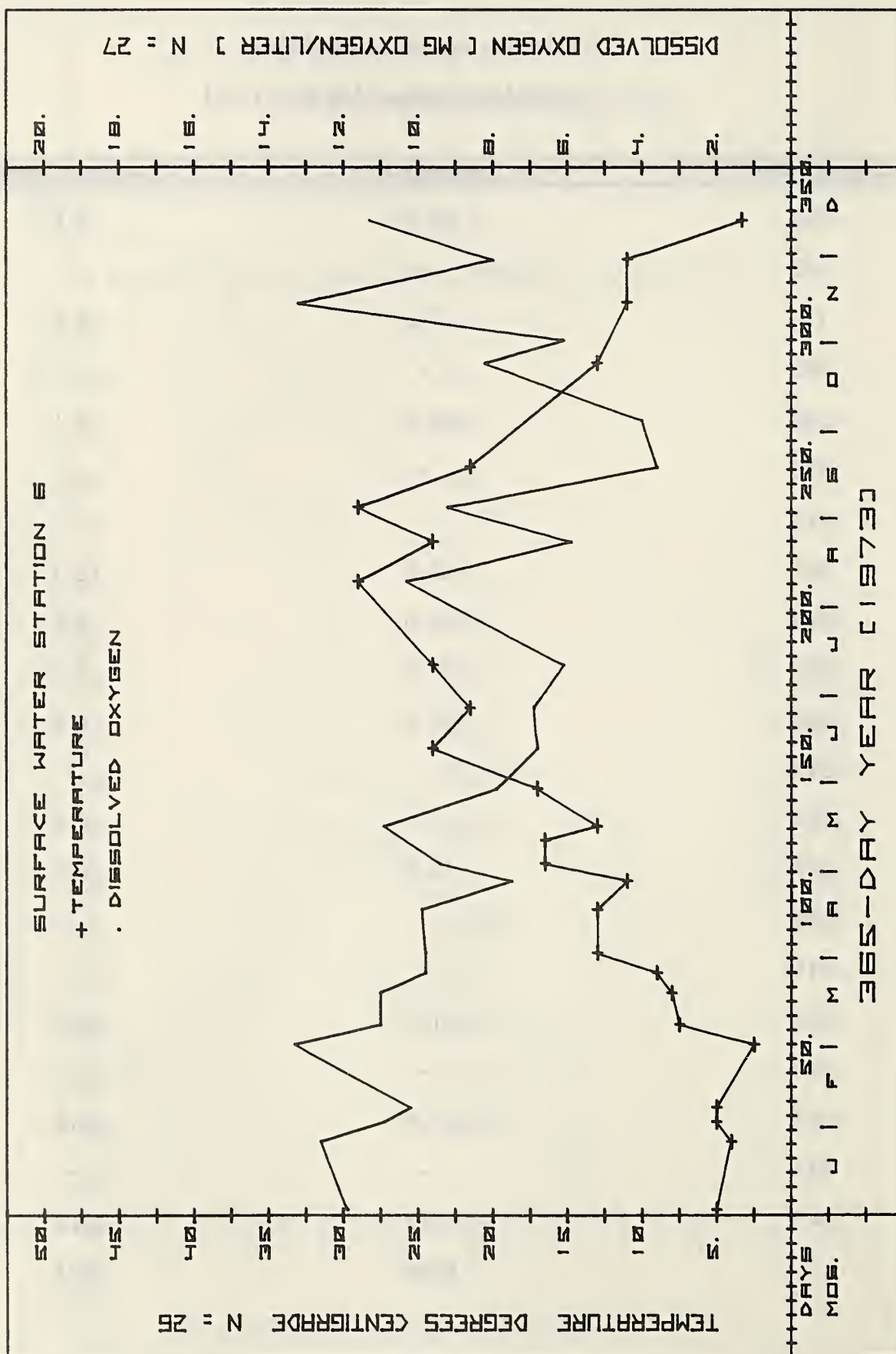
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	5.0	11.9
8	----- ICE COVERED -----	
19	" "	
26	4.0	12.6
33	5.0	10.9
38	5.0	10.2
47	-	-
52	-	-
60	2.5	13.3
67	7.5	11.0
78	8.0	11.0
85	9.0	9.8
92	13.0	9.8
103	-	-
107	13.0	9.9
117	11.0	7.5
123	16.5	9.4
131	16.5	-
136	13.0	10.9
144	-	-
149	17.0	7.9
159	-	-

Surface Station 6 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	24.0	6.8
173	-	-
177	21.5	6.9
184	-	-
192	24.0	6.1
199	-	-
215	-	-
221	29.0	10.3
235	24.0	5.9
247	29.0	9.2
261	21.5	3.6
271	-	-
277	-	4.0
297	13.0	8.2
305	-	-
311	-	-
318	11.0	13.2
324	-	-
333	11.0	8.0
341	-	-
347	3.3	11.3
	N=26	N=27



Surface Water Station 7

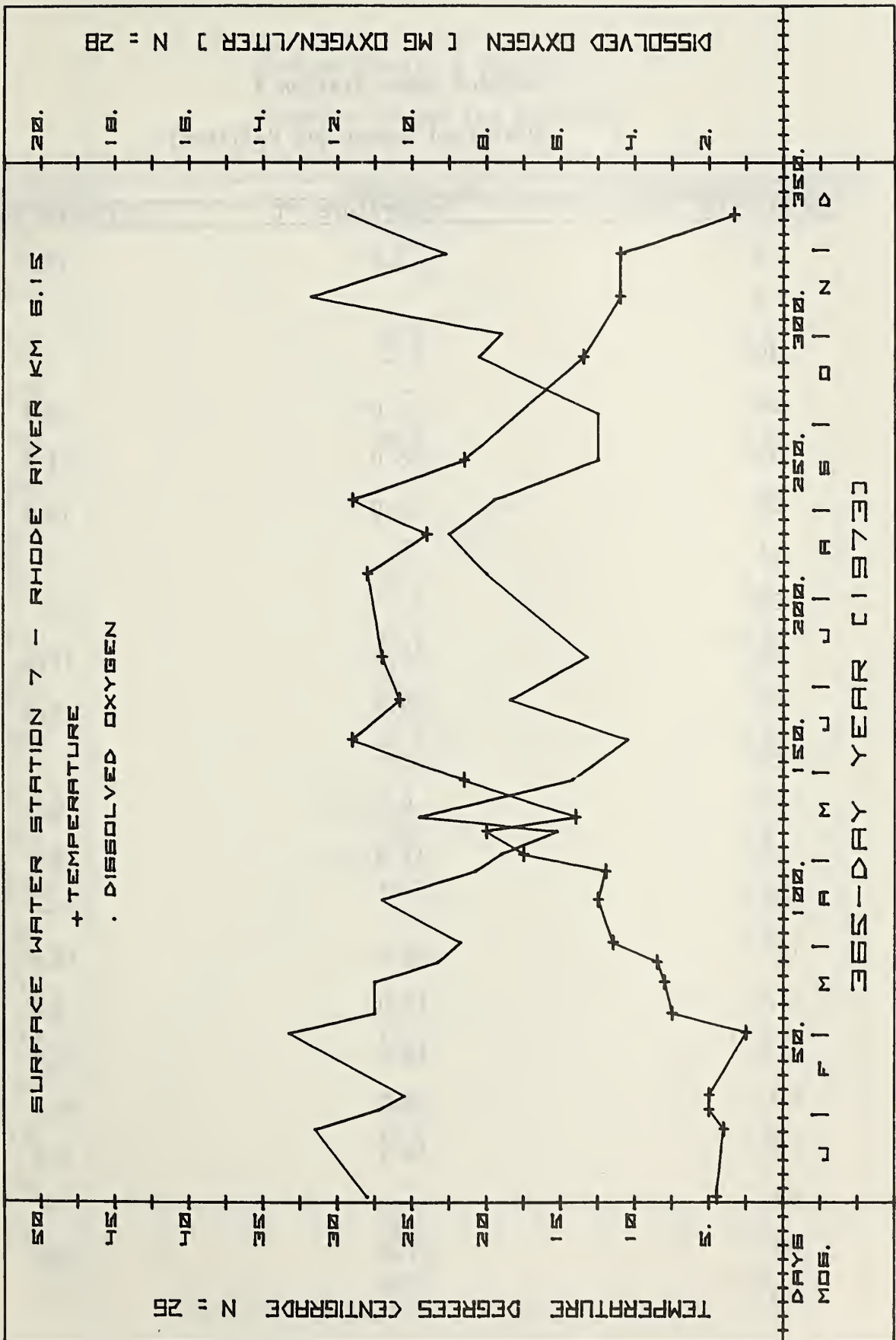
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	4.5	11.2
8	-	-
19	-	-
26	4.0	12.6
33	5.0	10.9
38	5.0	10.2
47	-	-
52	-	-
60	2.5	13.3
67	7.5	11.0
78	8.0	11.0
85	8.5	9.3
92	11.5	8.7
103	-	-
107	12.5	10.8
117	12.0	8.3
123	17.5	7.6
131	20.0	6.1
136	14.0	9.8
144	-	-
149	21.5	5.7
159	-	-

Surface Station 7 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	29.0	4.2
173	-	-
177	25.8	7.3
184	-	-
192	27.0	5.3
199	-	-
215	-	-
221	28.0	8.0
235	24.0	9.0
247	29.0	7.8
261	21.5	5.0
271	-	-
277	-	5.0
297	13.5	8.2
305	-	7.6
311	-	-
318	11.0	12.7
324	-	-
333	11.0	9.1
341	-	-
347	3.3	11.7
	N=26	N=28



Surface Water Station 8

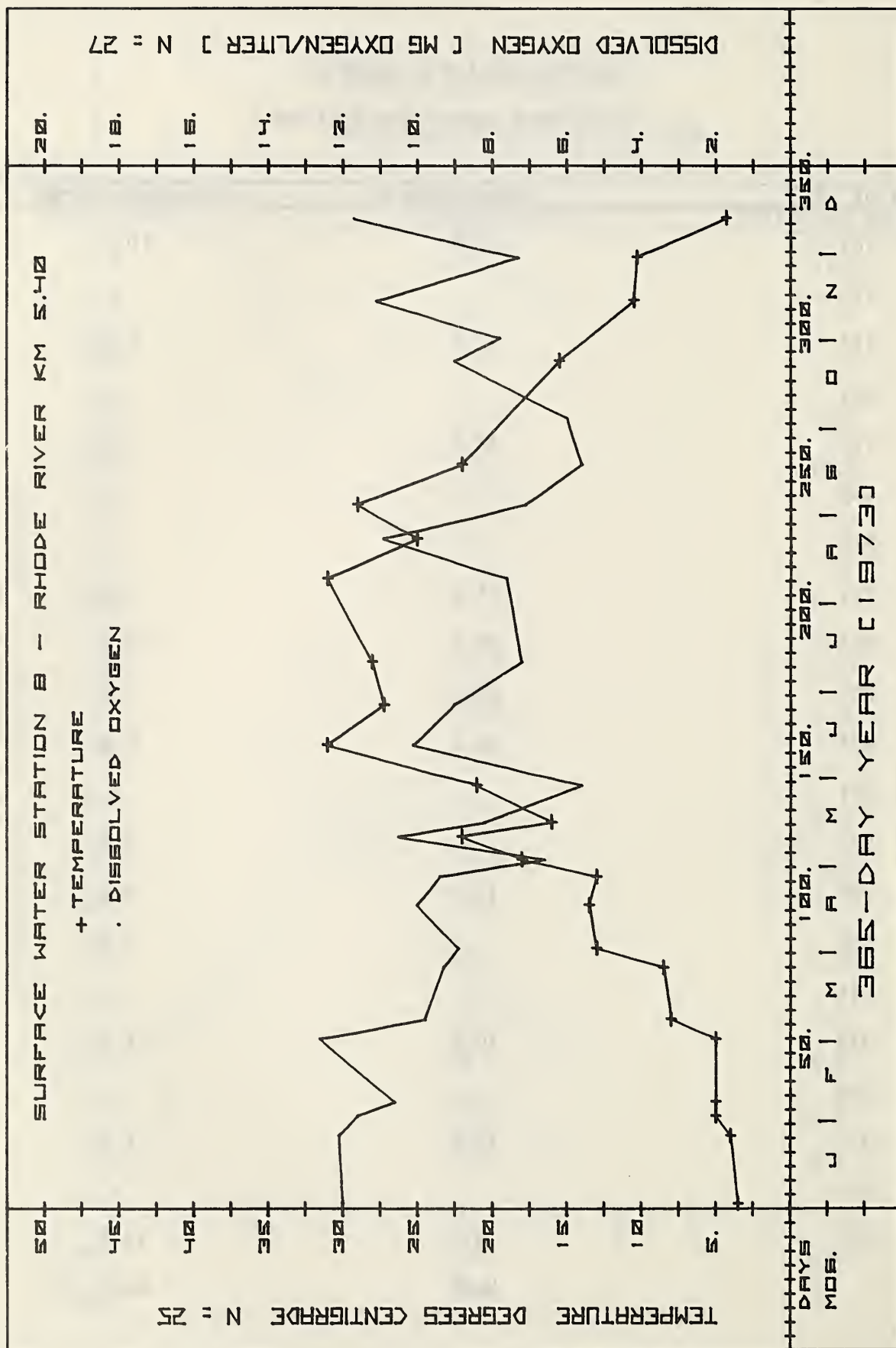
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	3.5	12.0
8	-	-
19	-	-
26	4.0	12.1
33	5.0	11.6
38	5.0	10.6
47	-	-
52	-	-
60	5.0	12.6
67	8.0	9.8
78	-	-
85	8.5	9.3
92	13.0	8.9
103	-	-
107	13.5	10.0
117	13.0	9.4
123	18.0	6.6
131	22.0	10.5
136	16.0	8.2
144	-	-
149	21.0	5.6
159	-	-

Surface Station 8 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	31.0	10.1
173	-	-
177	27.2	9.0
184	-	-
192	28.0	7.2
199	-	-
215	-	-
221	31.0	7.6
235	25.0	10.9
247	29.0	7.1
261	22.0	5.6
271	-	-
277	-	6.0
297	15.5	9.0
305	-	7.8
311	-	-
318	10.5	11.1
324	-	-
333	10.2	7.3
341	-	-
347	4.3	11.7
	N=25	N=27



Surface Water Station 9

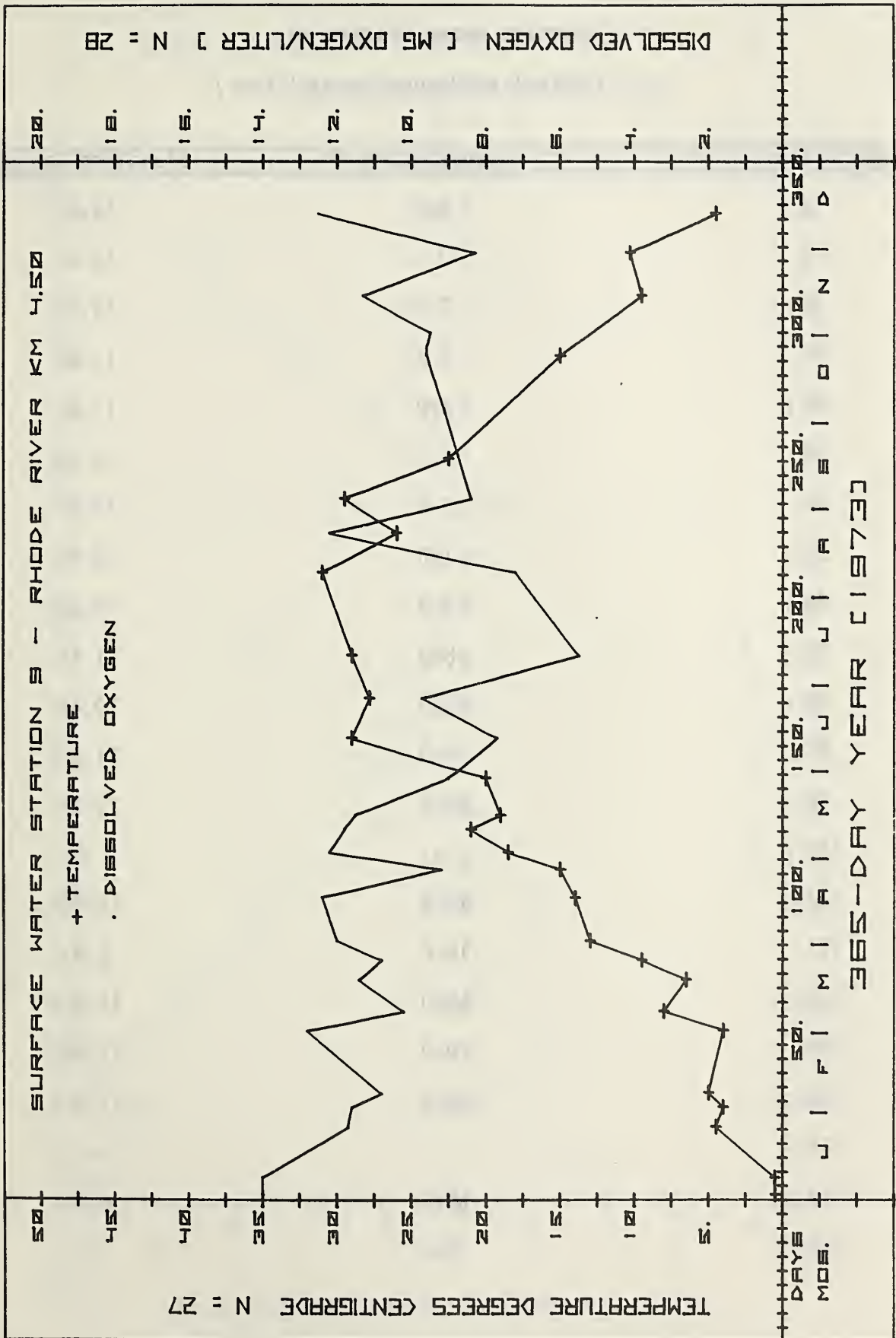
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	0.5	14.0
8	0.5	14.0
19	-	-
26	4.5	11.7
33	4.0	11.6
38	5.0	10.8
47	-	-
52	-	-
60	4.0	12.8
67	8.0	10.2
78	6.5	11.4
85	9.5	10.8
92	13.0	12.0
103	-	-
107	14.0	12.4
117	15.0	9.2
123	18.5	12.2
131	21.0	11.8
136	19.0	11.5
144	-	-
149	20.0	9.0
159	-	-

Surface Station 9 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	29.0	7.7
173	-	-
177	27.8	9.7
184	-	-
192	29.0	5.5
199	-	-
215	-	-
221	31.0	7.2
235	26.0	12.2
247	29.5	8.4
261	22.5	-
271	-	-
277	-	9.1
297	15.0	9.6
305	-	9.5
311	-	-
318	9.5	11.3
324	-	-
333	10.3	8.3
341	-	-
347	4.5	12.5
	N=27	N=28



Surface Water Station 10

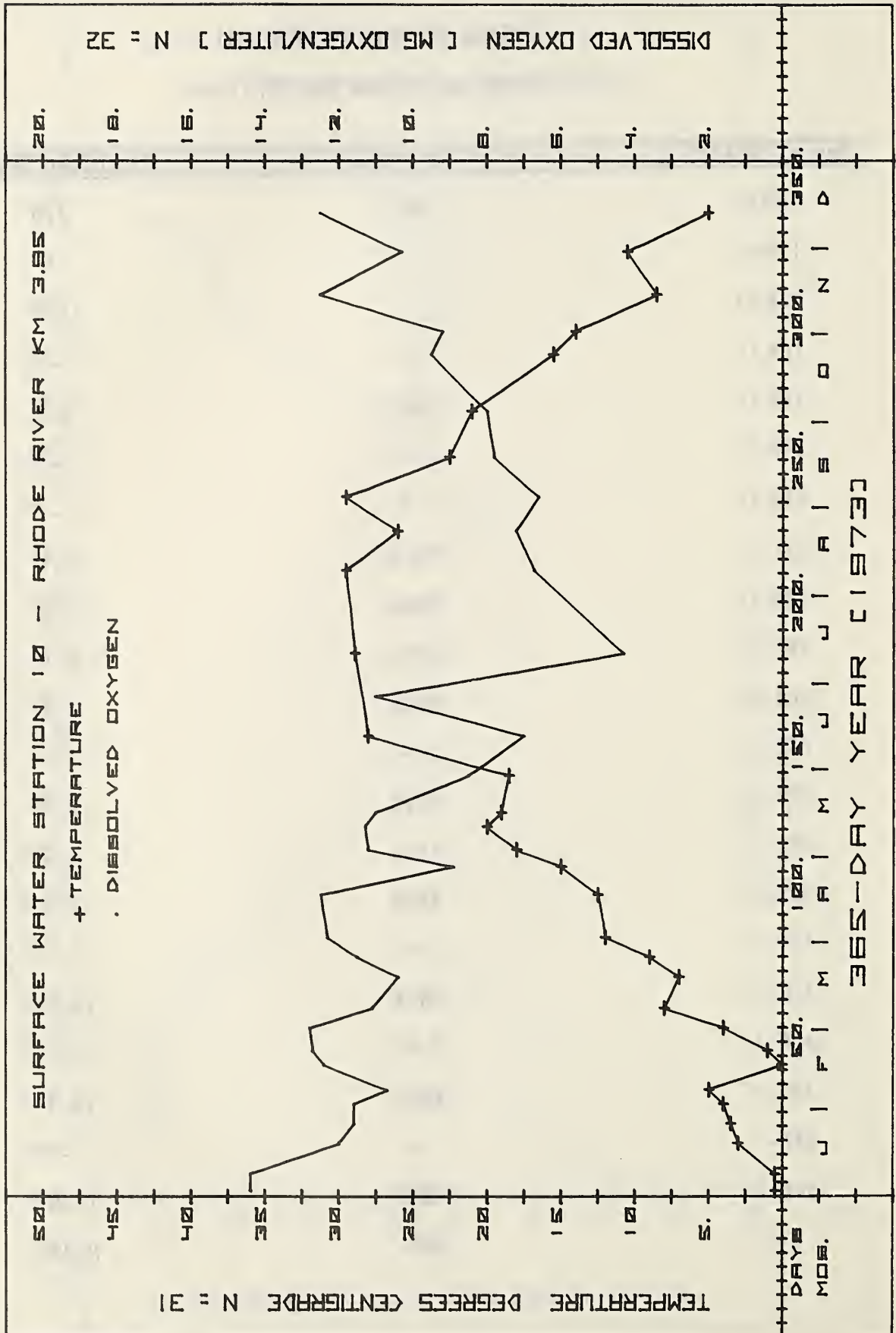
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	0.5	14.4
8	0.5	14.4
19	3.0	12.0
26	3.5	11.6
33	4.0	11.6
38	5.0	10.7
47	0.0	12.4
52	1.0	12.7
60	4.0	12.8
67	8.0	11.1
78	7.0	10.4
85	9.0	11.5
92	12.0	12.3
103	-	-
107	12.5	12.5
117	15.0	8.9
123	18.0	11.2
131	20.0	11.3
136	19.0	11.0
144	-	-
149	18.5	8.5
159	-	-

Surface Station 10 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	28.0	7.0
173	-	-
177	-	11.0
184	-	-
192	28.9	4.3
199	-	-
215	-	-
221	29.5	6.7
235	26.0	7.2
247	29.5	6.6
261	22.5	7.8
271	-	-
277	21.0	8.0
297	15.5	9.5
305	14.0	9.2
311	-	-
318	8.5	12.5
324	-	-
333	10.5	10.3
341	-	-
347	5.0	12.5
	N=31	N=32



Surface Water Station 11

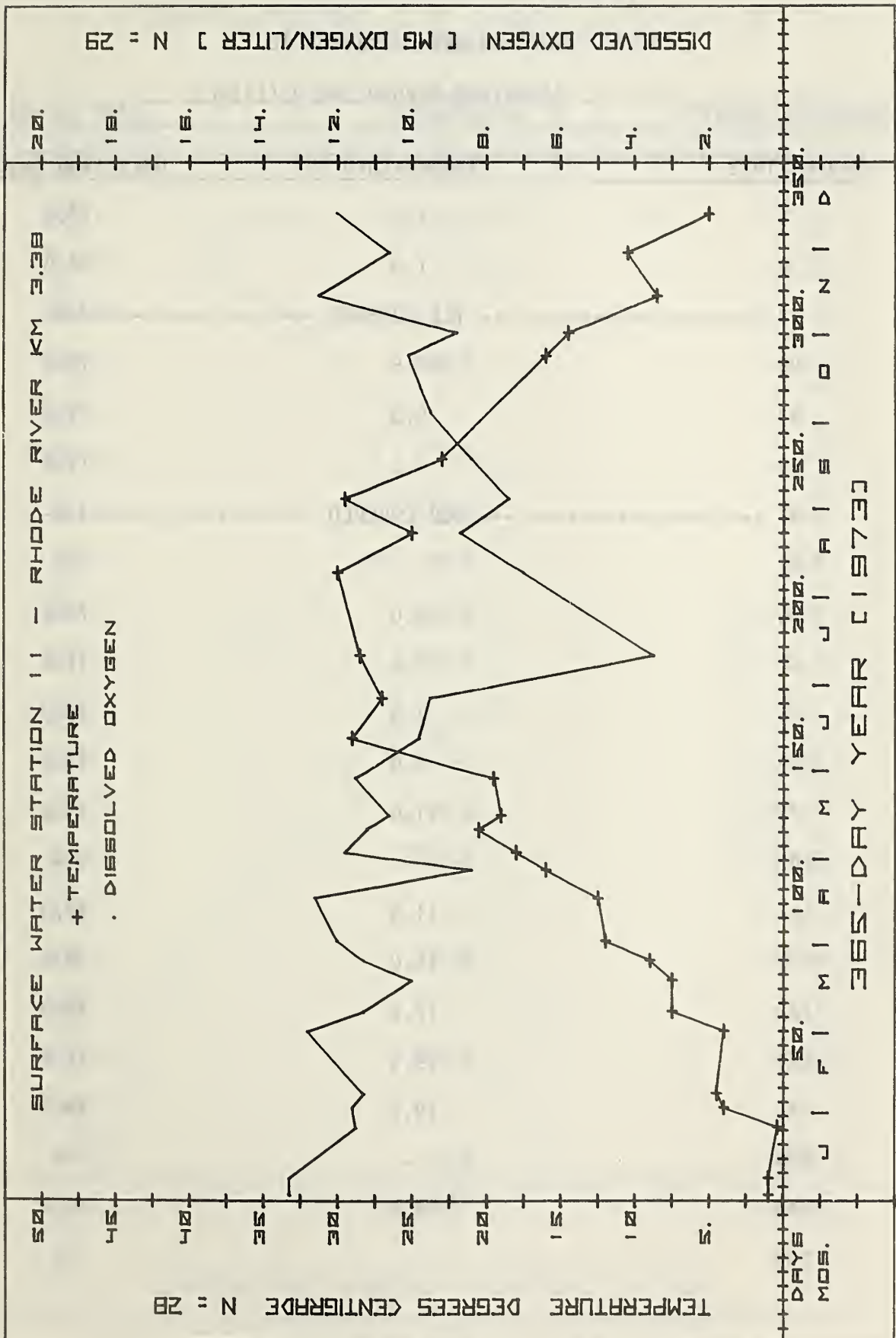
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	1.0	13.3
8	1.0	13.3
19	----- ICE COVERED -----	
26	4.0	11.5
33	4.0	11.6
38	4.5	11.3
47	----- ICE COVERED -----	
52	" "	
60	4.0	12.8
67	7.5	11.3
78	7.5	10.0
85	9.0	11.3
92	12.0	12.0
103	-	-
107	12.5	12.6
117	16.0	8.4
123	18.0	11.8
131	20.5	11.2
136	19.0	10.6
144	-	-
149	19.5	11.5
159	-	-

Surface Station 11 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	29.0	9.8
173	-	-
177	27.0	9.5
184	-	-
192	28.5	3.5
199	-	-
215	-	-
221	30.0	7.0
235	25.0	8.7
247	29.5	7.4
261	23.0	8.4
271	-	-
277	-	9.5
297	16.0	10.1
305	14.5	8.8
311	-	-
318	8.5	12.5
324	-	-
333	10.5	10.6
341	-	-
347	5.0	12.0
	N=28	N=29



Surface Water Station 12

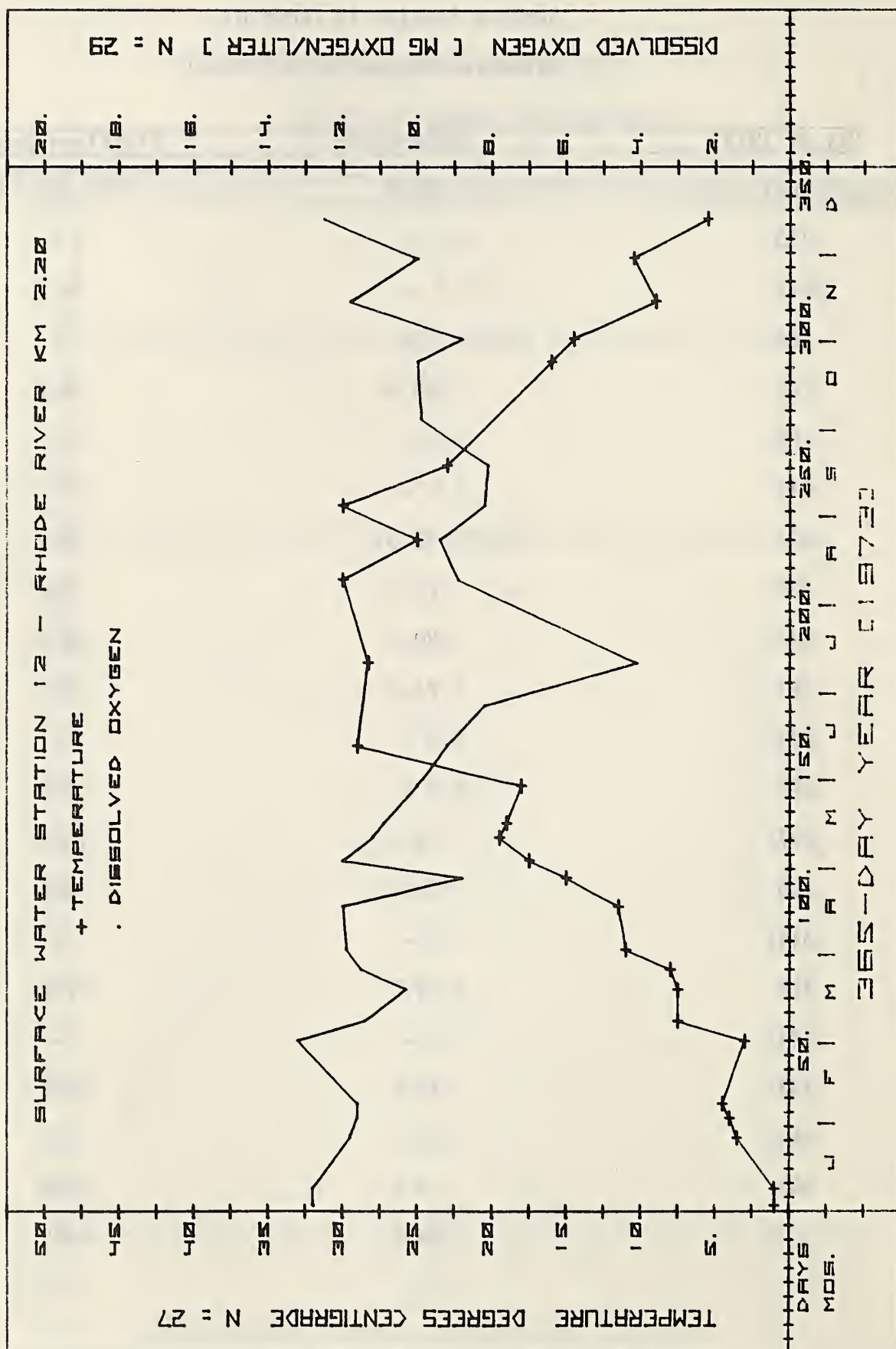
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	1.0	12.8
8	1.0	12.8
19	----- ICE COVERED -----	
26	3.5	11.8
33	4.0	11.6
38	4.5	11.6
47	----- ICE COVERED -----	
52	" "	
60	3.0	13.2
67	7.5	11.4
78	7.5	10.3
85	8.0	11.5
92	11.0	11.9
103	-	-
107	11.5	12.0
117	15.0	8.8
123	17.5	12.0
131	19.5	11.2
136	19.0	10.9
144	-	-
149	18.0	10.0
159	-	-

Surface Station 12 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	29.0	9.2
173	-	-
177	-	8.2
184	-	-
192	28.3	4.1
199	-	-
215	-	-
221	30.0	8.9
235	25.0	9.4
247	30.0	8.2
261	23.0	8.1
271	-	-
277	-	9.9
297	16.0	10.0
305	14.5	8.8
311	-	-
318	9.0	11.8
324	-	-
333	10.5	10.0
341	-	-
347	5.5	12.5
	N=27	N=29



Surface Water Station 12.5

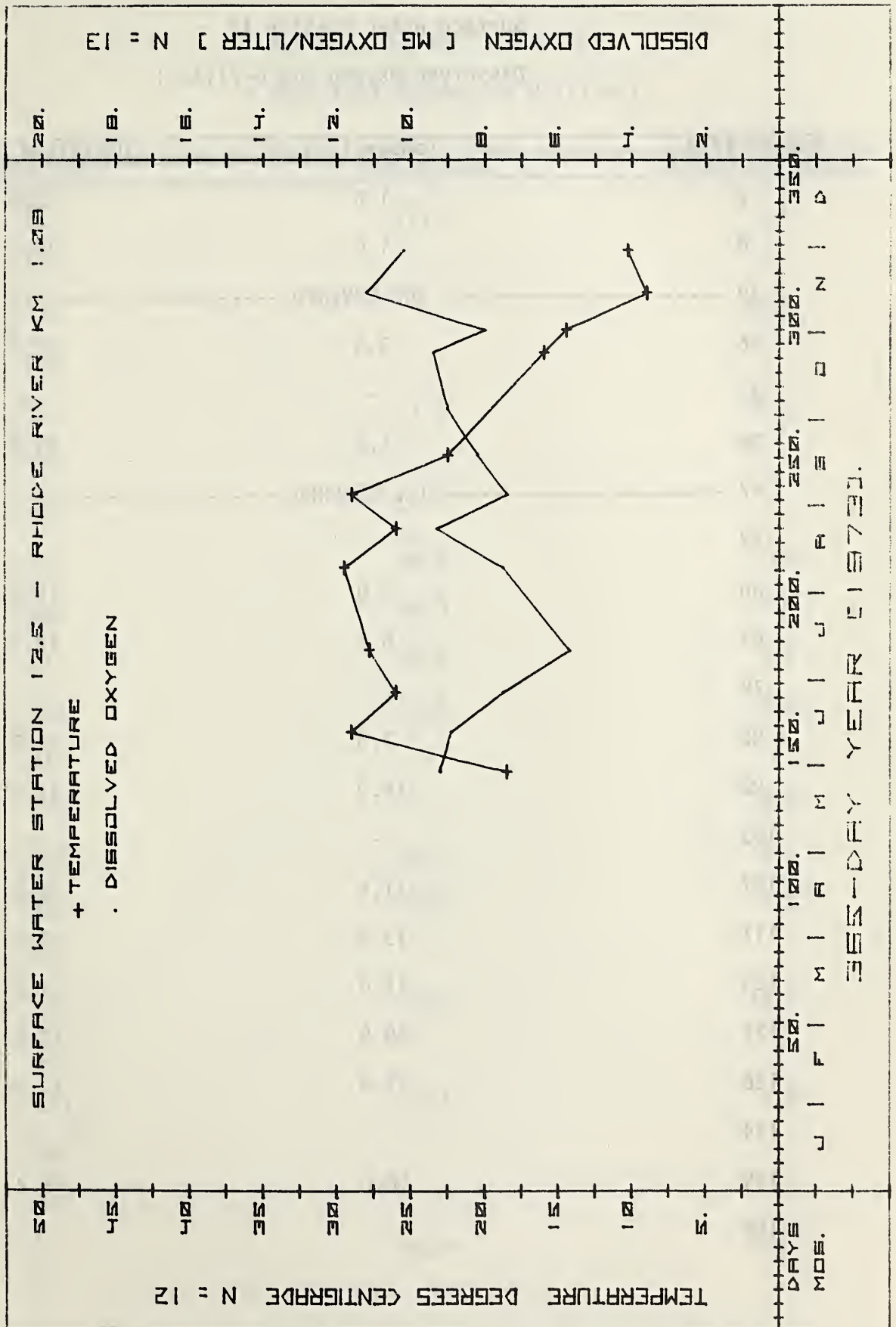
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
Sampling initiated 5/25/73 - Day 149		
149	18.5	9.2
159	-	-
163	20.0	8.9
184	-	-
192	27.8	5.7
199	-	-
215	-	-
221	29.5	7.5
235	26.0	9.3
247	29.0	7.4
261	22.5	8.2
271	-	-
277	-	9.0
297	16.0	9.4
305	14.5	8.0
311	-	-
318	9.0	11.2
324	-	-
333	10.3	10.2
341	-	-

Surface Station 12.5 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
347	-	-
	N=12	N=13



Surface Water Station 13

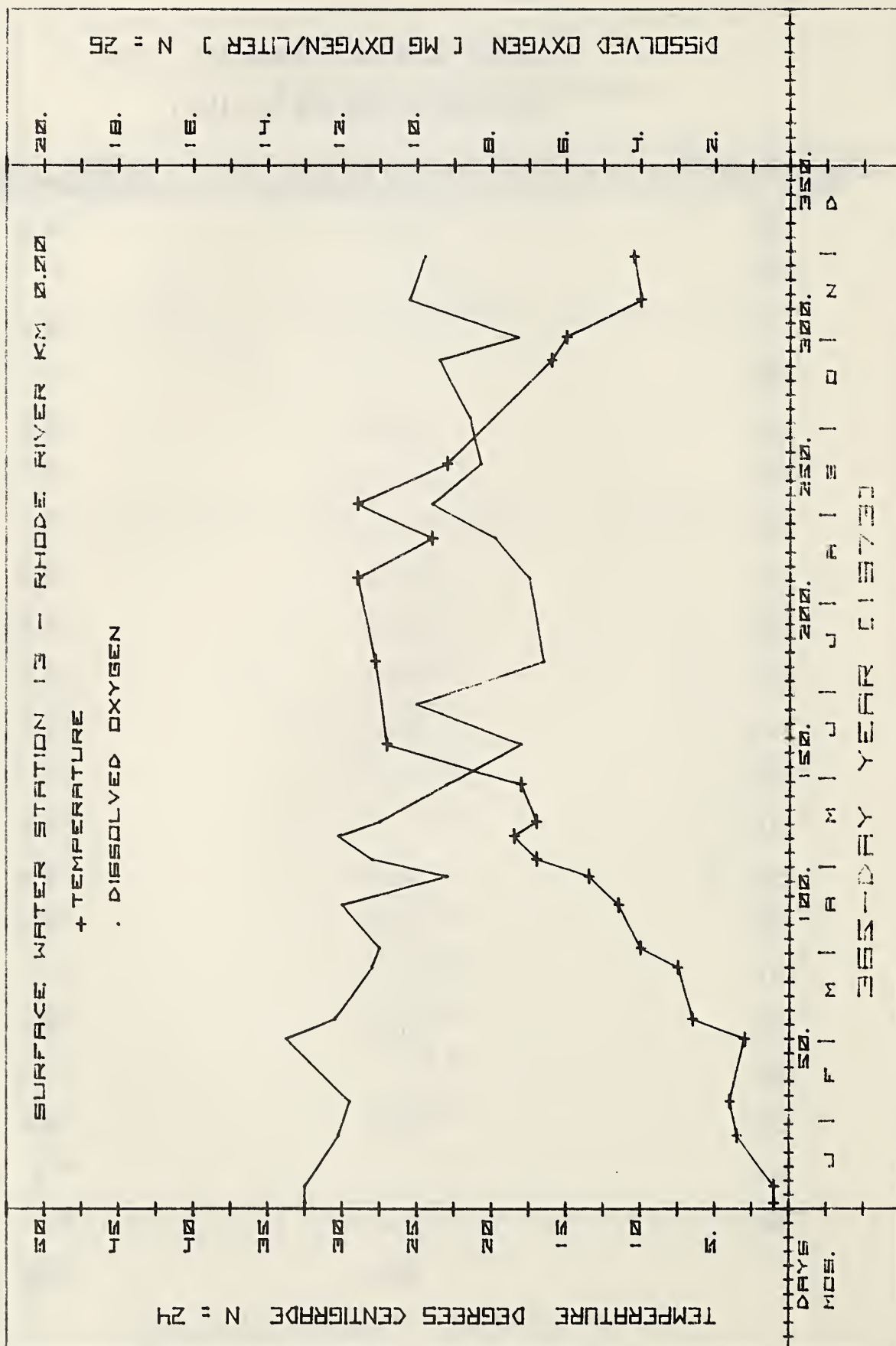
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	1.0	13.0
8	1.0	13.0
19	----- ICE COVERED -----	
26	3.5	12.1
33	-	-
38	4.0	11.8
47	----- ICE COVERED -----	
52	" "	
60	3.0	13.5
67	6.5	12.2
78	-	-
85	7.5	11.2
92	10.0	11.0
103	-	-
107	11.5	12.0
117	13.5	9.2
123	17.0	11.2
131	18.5	12.1
136	17.0	11.0
144	-	-
149	18.0	9.2
159	-	-

Surface Station 13 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	27.0	7.2
173	-	-
177	-	10.0
184	-	-
192	27.8	6.6
199	-	-
215	-	-
221	29.0	7.0
235	24.0	7.9
247	29.0	9.6
261	23.0	8.3
271	-	-
277	-	8.6
297	16.0	9.4
305	15.0	7.3
311	-	-
318	10.0	10.2
324	-	-
333	10.5	9.8
341	-	-
347	-	-
	N=24	N=26



Surface Water Station 14

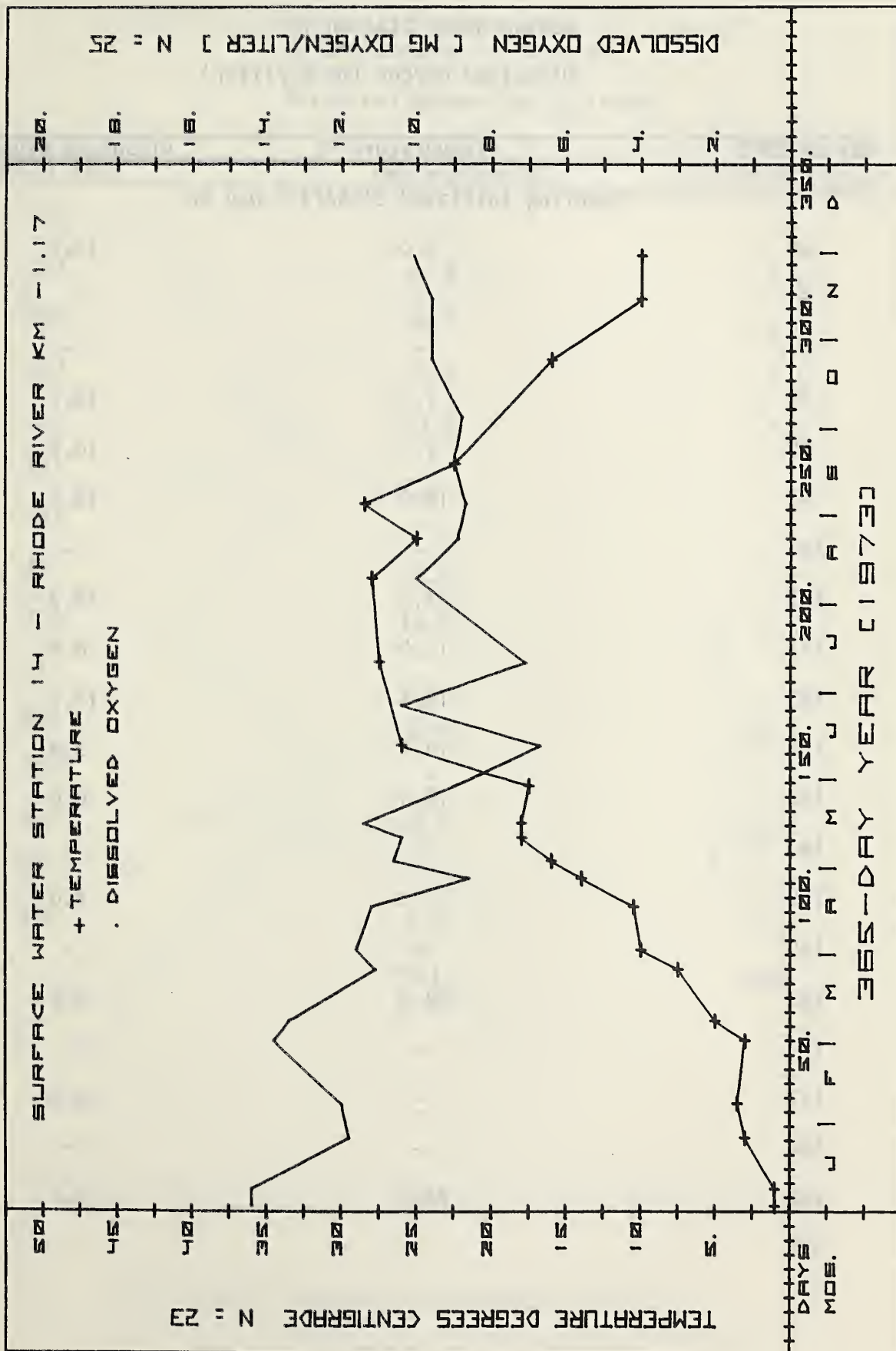
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	1.0	14.4
8	1.0	14.4
19	----- ICE COVERED -----	
26	3.0	11.8
33	-	-
38	3.5	12.0
47	----- ICE COVERED -----	
52	" "	
60	3.0	13.8
67	5.0	13.4
78	-	-
85	7.5	11.1
92	10.0	11.6
103	-	-
107	10.5	11.2
117	14.0	8.6
123	16.0	10.6
131	18.0	10.4
136	18.0	11.4
144	-	-
149	17.5	9.0
159	-	-

Surface Station 14 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	26.0	6.7
173	-	-
177	-	10.4
184	-	-
192	27.5	7.1
199	-	-
215	-	-
221	28.0	10.0
235	25.0	8.9
247	28.5	8.7
261	22.5	9.0
271	-	-
277	-	8.8
297	16.0	9.6
305	-	-
311	-	-
318	10.0	9.6
324	-	-
333	10.0	10.1
341	-	-
347	-	-
	N=23	N=25



Bottom Water Station 10

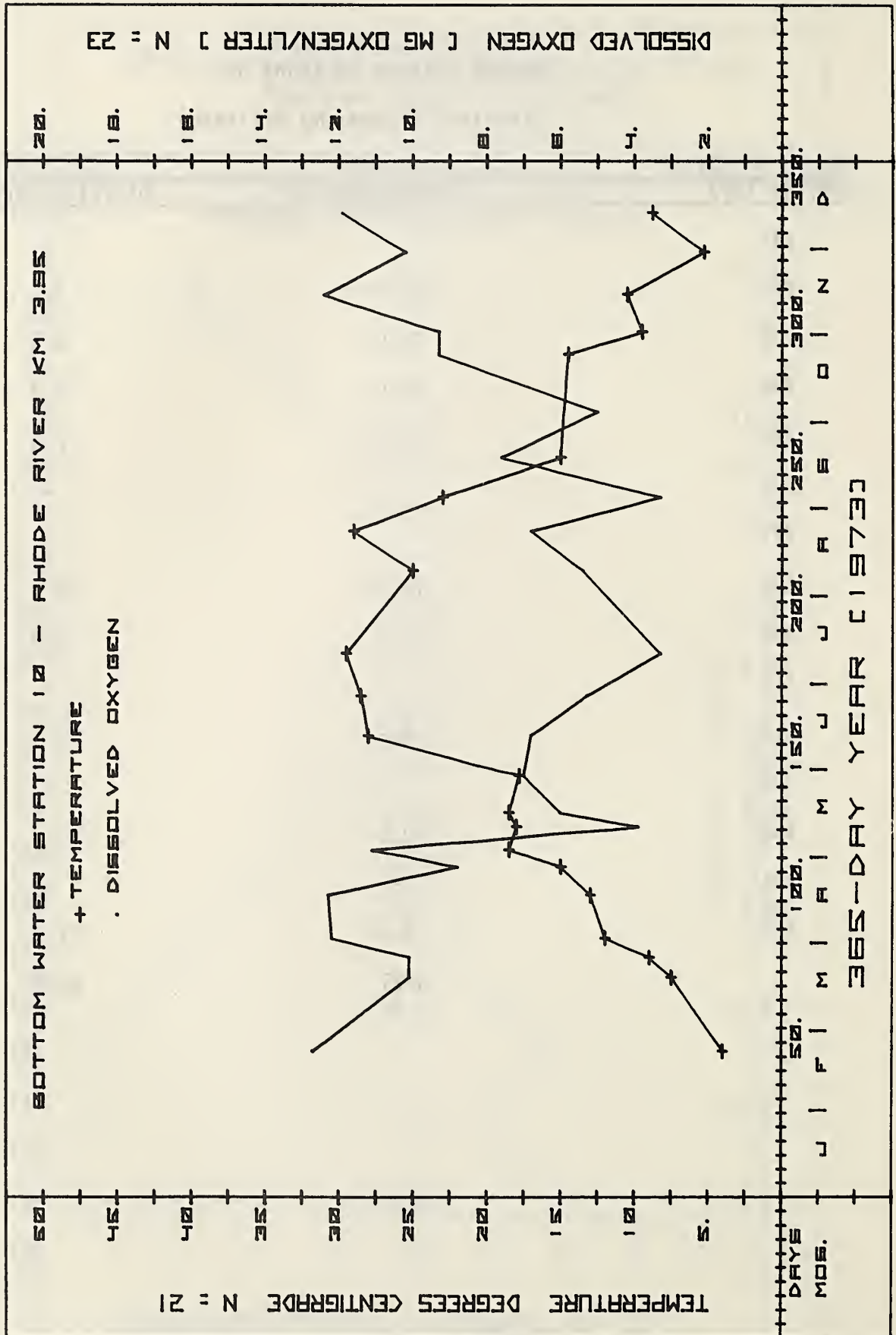
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
Sampling initiated 2/16/73 - Day 52		
52	4.0	12.7
60	-	-
67	-	-
78	7.5	10.1
85	9.0	10.1
92	12.0	12.2
103	-	-
107	13.0	12.3
117	15.0	8.8
123	18.5	11.1
131	18.0	3.9
136	18.5	6.0
144	-	-
149	17.8	7.0
159	-	-
163	28.0	6.8
173	-	-
177	-	5.3
184	-	-
192	28.5	3.3
199	-	-

Bottom Station 10 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
215	-	-
221	29.5	5.4
235	25.0	6.8
247	29.0	3.3
261	23.0	7.6
271	-	-
277	-	-
297	15.0	9.3
305	14.5	9.3
311	-	-
318	9.5	12.4
324	-	-
333	10.5	10.2
341	-	-
347	5.3	11.9
	N=21	N=23



Bottom Water Station 11

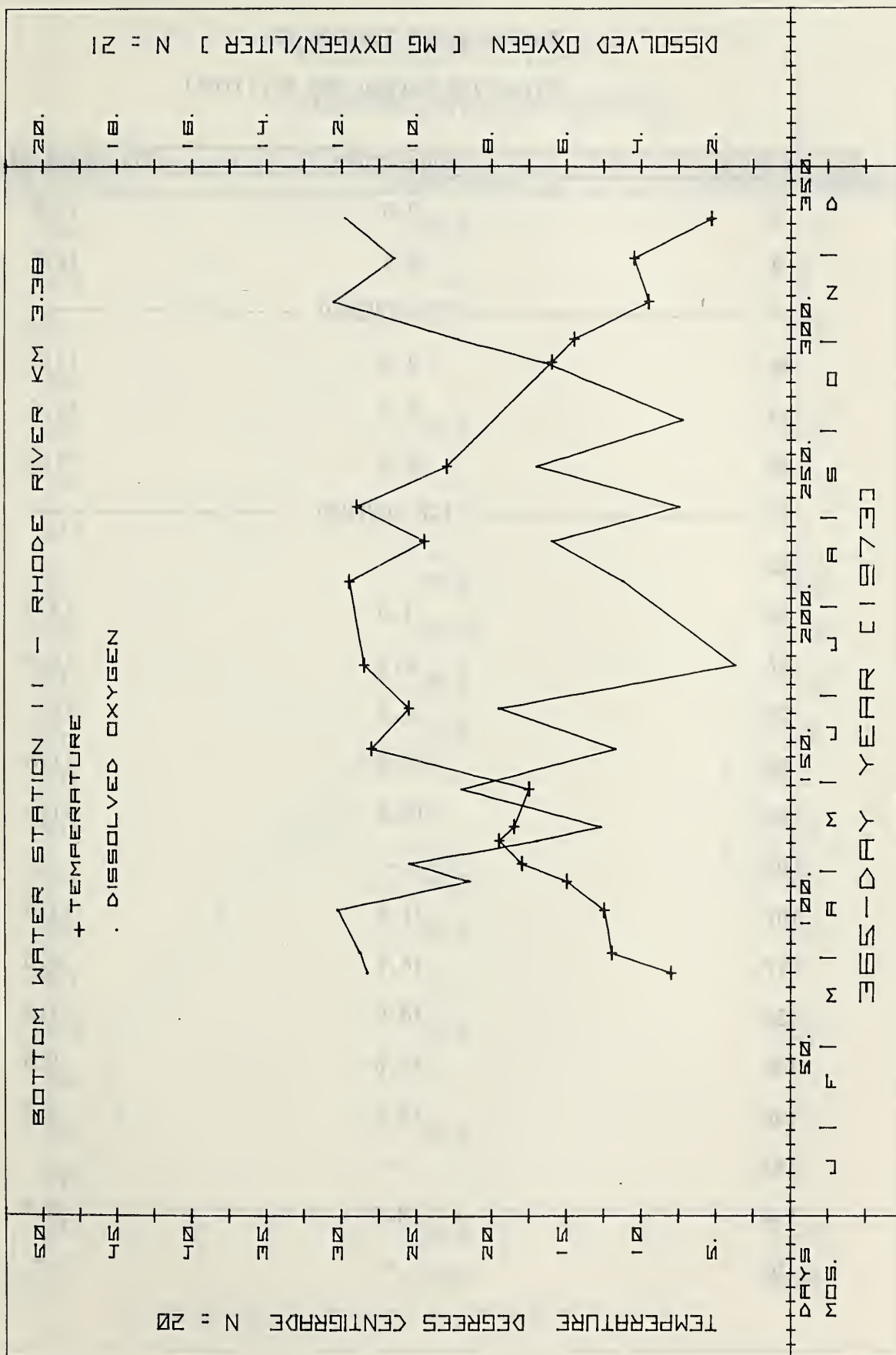
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
Sampling initiated 3/26/73 - Day 85		
85	8.0	11.3
92	12.0	11.5
103	-	-
107	12.5	12.1
117	15.0	8.6
123	18.0	10.2
131	19.5	6.8
136	18.5	5.1
144	-	-
149	17.5	8.8
159	-	-
163	28.0	4.7
173	-	-
177	25.5	7.8
184	-	-
192	28.5	1.5
199	-	-
215	-	-
221	29.5	4.5
235	24.5	6.4

Bottom Station 11 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
247	29.0	3.0
261	23.0	6.8
271	-	-
277	-	2.9
297	16.0	6.6
305	14.5	8.9
311	-	-
318	9.5	12.2
324	-	-
333	10.5	10.6
341	-	-
347	5.3	11.9
	N=20	N=21



Bottom Water Station 12

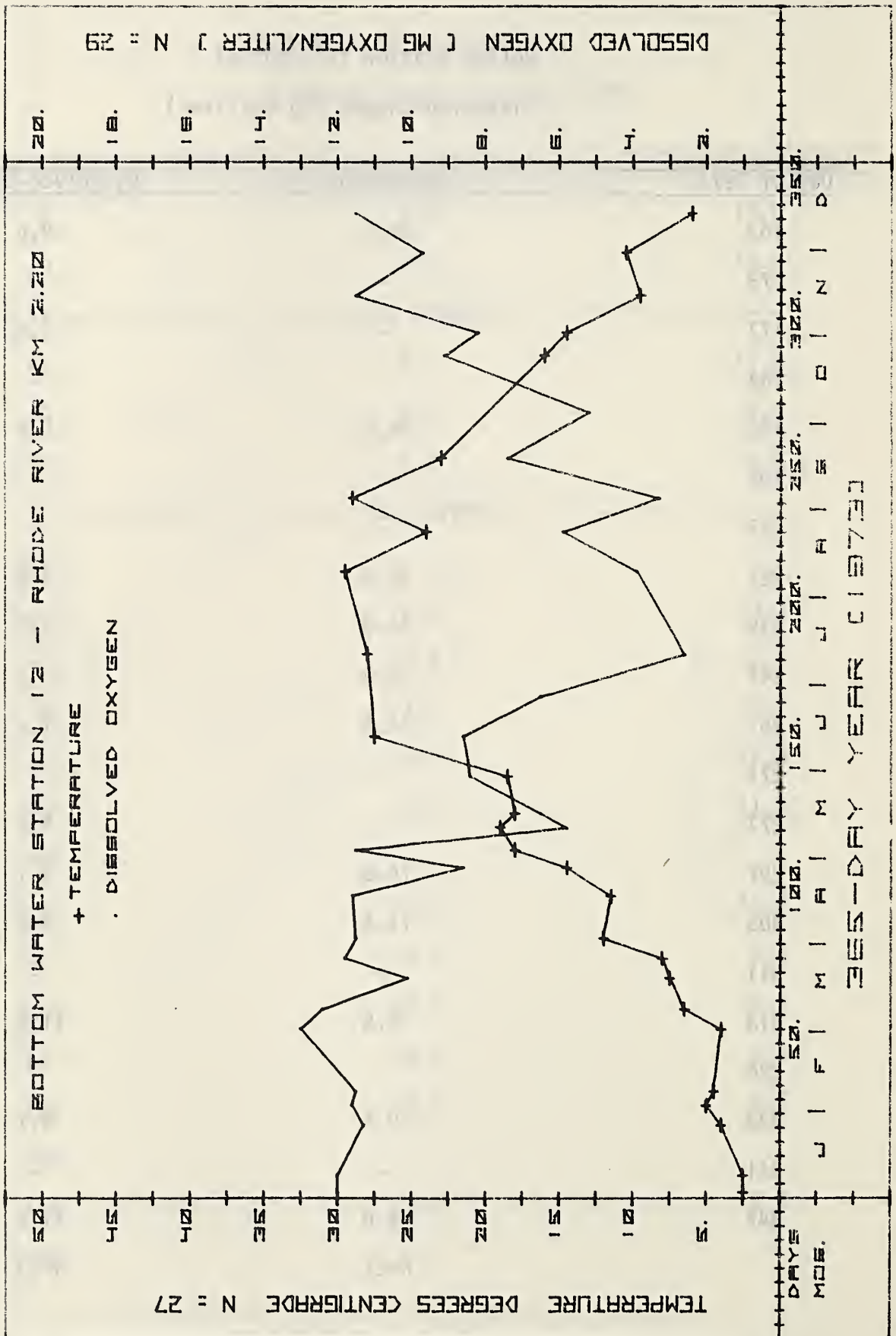
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	2.5	12.0
8	2.5	12.0
19	----- ICE COVERED -----	
26	4.0	11.3
33	5.0	11.6
38	4.5	11.5
47	----- ICE COVERED -----	
52	" "	
60	4.0	13.0
67	6.5	12.4
78	7.5	10.1
85	8.0	11.8
92	12.0	11.5
103	-	-
107	11.5	11.6
117	14.5	8.6
123	18.0	11.5
131	19.0	5.8
136	18.0	6.5
144	-	-
149	18.5	8.4
159	-	-

Bottom Station 12 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	27.5	8.6
173	-	-
177	-	6.5
184	-	-
192	28.0	2.6
199	-	-
215	-	-
221	29.5	3.9
235	24.0	5.9
247	29.0	3.3
261	23.0	7.4
271	-	-
277	-	5.2
297	16.0	9.1
305	14.5	8.2
311	-	-
318	9.5	11.5
324	-	-
333	10.5	9.7
341	-	-
347	6.0	11.5
	N=27	N=29



Bottom Water Station 12.5

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
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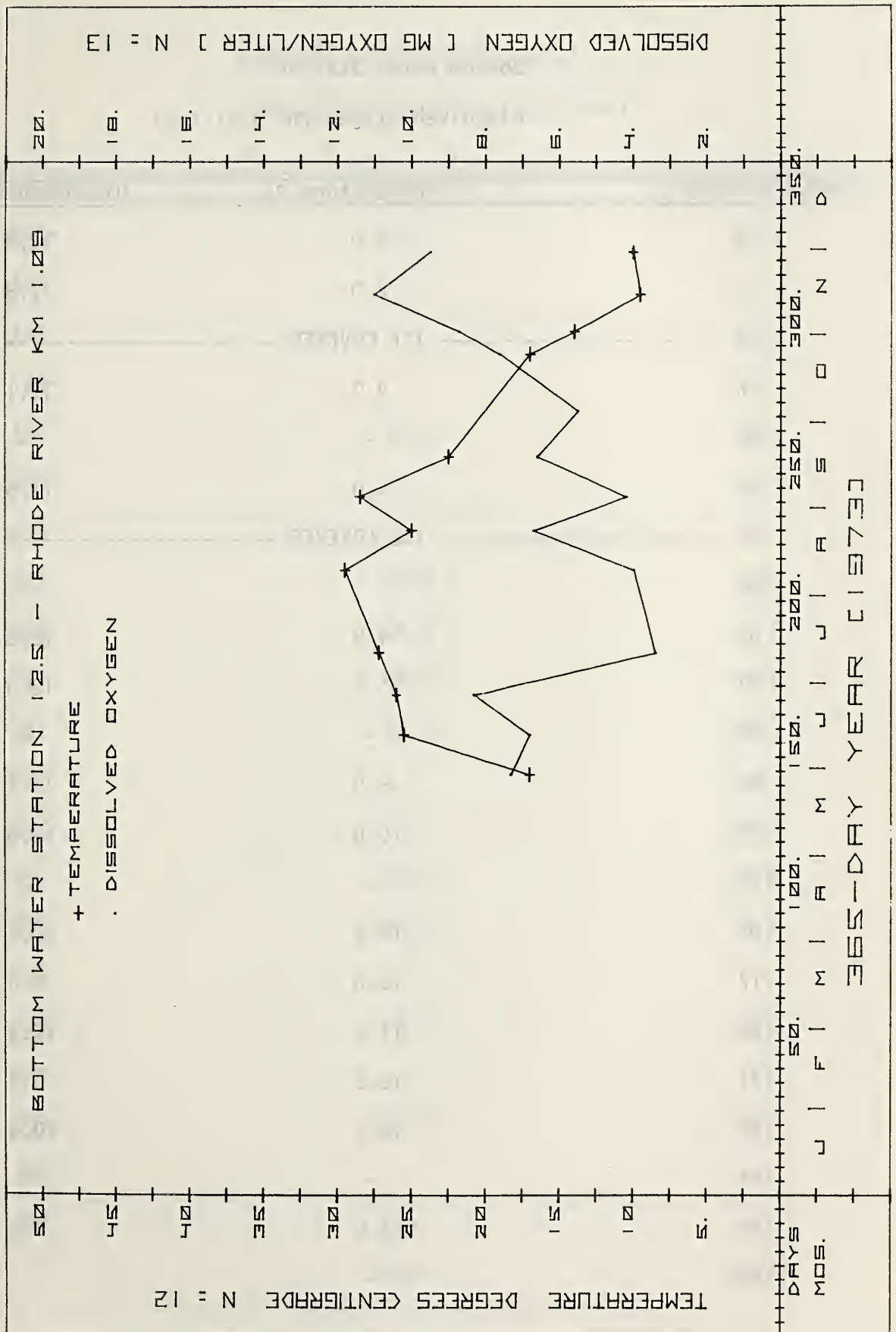
Sampling initiated 5/29/73 - Day 149

149	17.0	7.3
159	-	-
163	25.5	6.8
173	-	-
177	26.0	8.3
184	-	-
192	27.2	3.4
199	-	-
215	-	-
221	29.5	4.0
235	25.0	6.7
247	28.5	4.2
261	22.5	6.6
271	-	-
277	-	5.5
297	17.0	7.6
305	14.0	8.7
311	-	-
318	9.5	11.0
324	-	-
333	10.0	9.5

Bottom Station 12.5 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1972	Temperature °C	Dissolved Oxygen
341	-	-
347	-	-
	N=12	N=13



Bottom Water Station 13

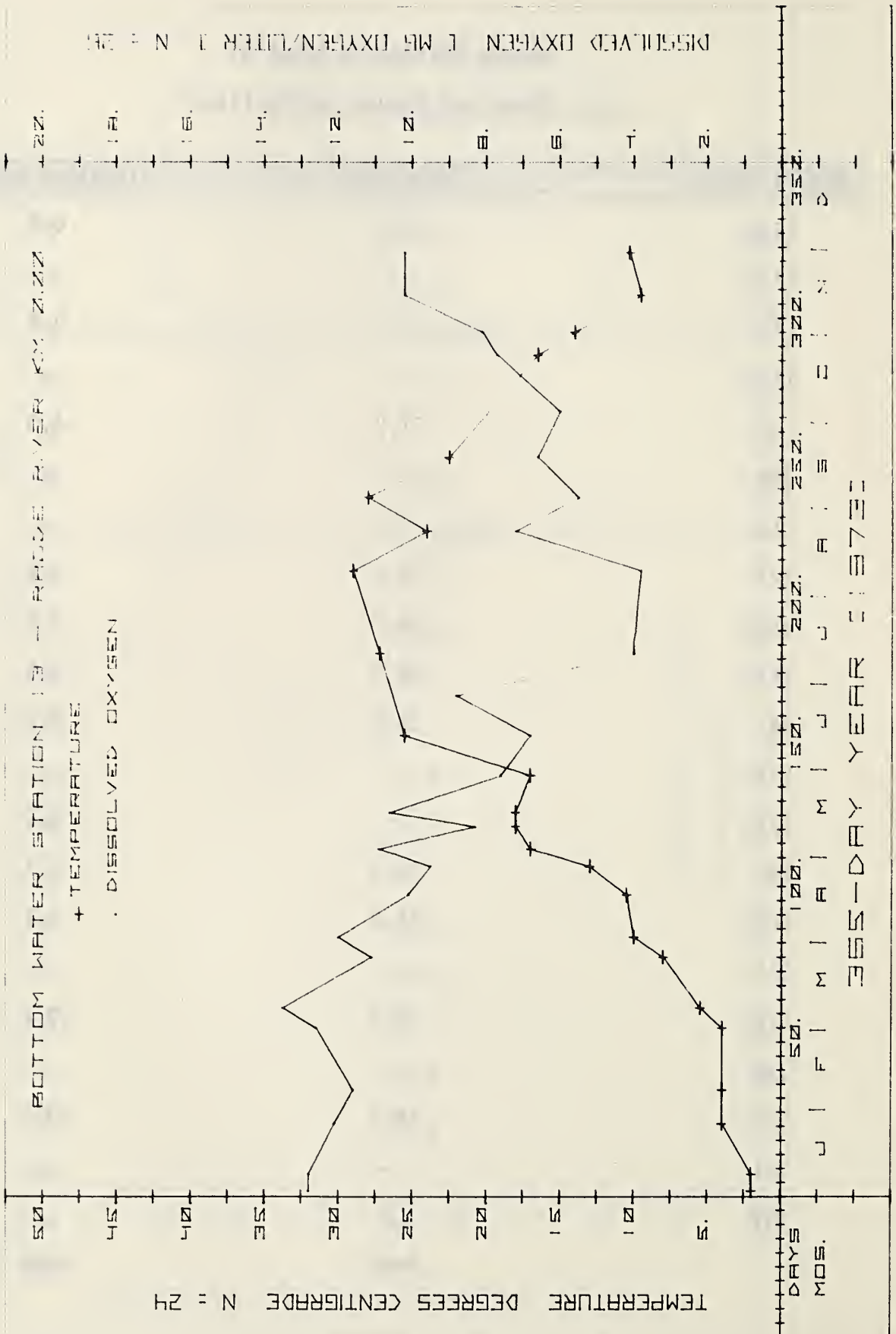
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	2.0	12.8
8	2.0	12.8
19	----- ICE COVERED -----	
26	4.0	12.1
33	-	-
38	4.0	11.6
47	----- ICE COVERED -----	
52	" "	
60	4.0	12.6
67	5.5	13.5
78	-	-
85	8.0	11.1
92	10.0	12.0
103	-	-
107	10.5	10.1
117	13.0	9.5
123	17.0	10.9
131	18.0	8.3
136	18.0	10.6
144	-	-
149	17.0	7.6
159	-	-

Bottom Station 13 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	25.5	6.8
173	-	-
177	-	8.8
184	-	-
192	27.2	4.0
199	-	-
215	-	-
221	29.0	3.8
235	24.0	7.2
247	28.0	5.5
261	22.5	6.6
271	-	-
277	-	6.0
297	16.5	7.7
305	14.0	8.1
311	-	-
318	9.5	10.2
324	-	-
333	10.3	10.2
341	-	-
347	-	-
	N=24	N=26



Bottom Water Station 14

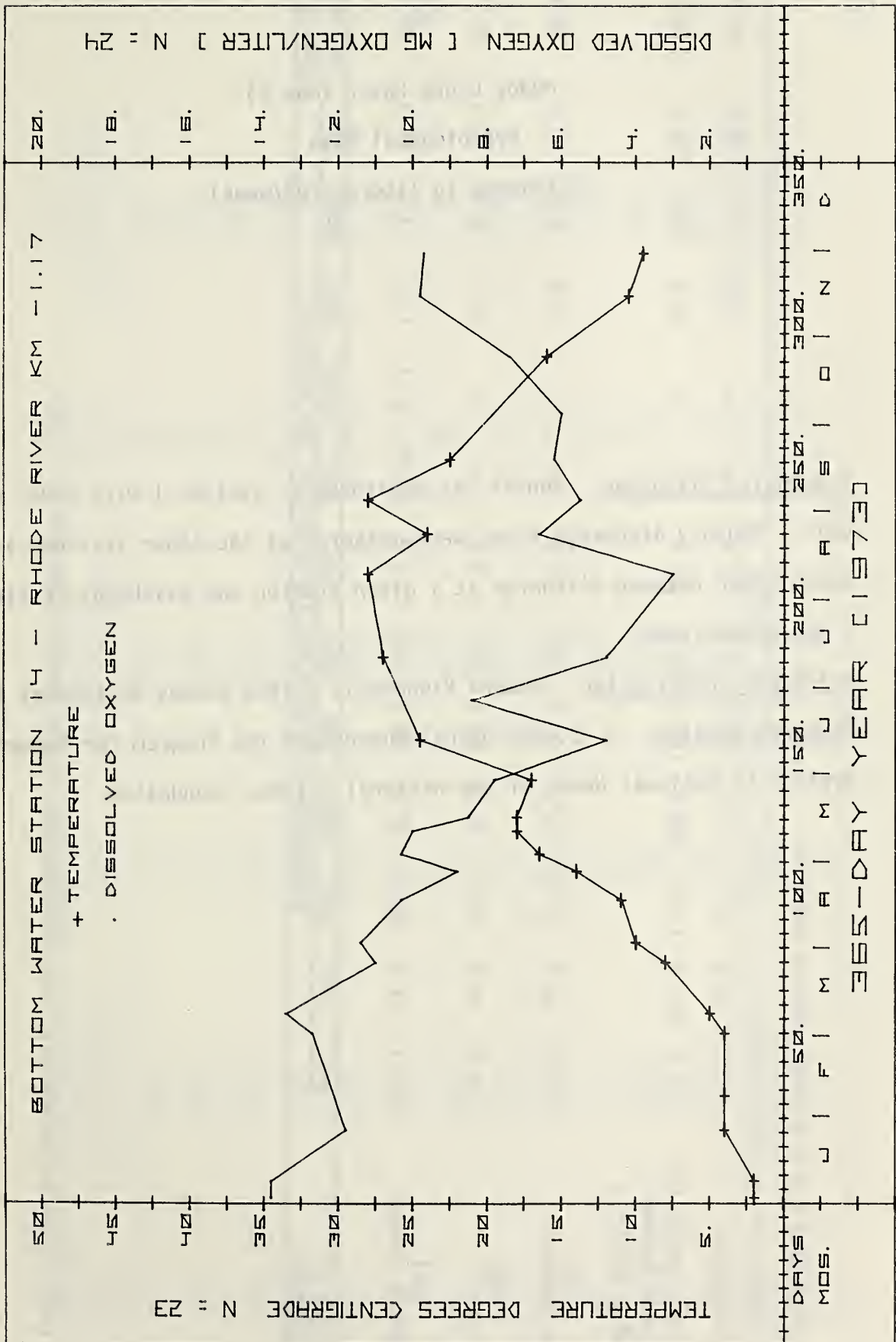
Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
2	2.0	13.8
8	2.0	13.8
19	----- ICE COVERED -----	
26	4.0	11.8
33	-	-
38	4.0	-
47	----- ICE COVERED -----	
52	" "	
60	4.0	12.7
67	5.0	13.4
78	-	-
85	8.0	11.0
92	10.0	11.4
103	-	-
107	11.0	10.3
117	14.0	8.8
123	16.5	10.3
131	18.0	10.0
136	18.0	8.5
144	-	-
149	17.0	7.8
159	-	-

Bottom Station 14 (Cont'd)

Dissolved Oxygen (mg O₂/liter)

Day of 1973	Temperature °C	Dissolved Oxygen
163	24.5	4.8
173	-	-
177	-	8.4
184	-	-
192	27.0	4.8
199	-	-
215	-	-
221	28.0	3.0
235	24.0	6.6
247	28.0	5.5
261	22.5	6.2
271	-	-
277	-	6.0
297	16.0	7.4
305	-	-
311	-	-
318	10.5	9.8
324	-	-
333	9.5	9.7
341	-	-
347	-	-
	N=23	N=24



Muddy Creek Basin (map 2)

Hydrological Data

(Discharge in liters $\times 10^6$ /week)

Freshwater Discharge - Runoff was monitored at station 1 with a 90° notch weir. Monthly discharge rates were measured at the other stations and a correlation between discharge at a given station and discharge at station 1 was established.

Principal Investigator: Edward Pluhowski, United States Geological Survey.

Research Funding: U. S. Geological Survey and the Program for Research Applied to National Needs of the National Science Foundation.

Fresh Water Discharge Rate for Subwatersheds of the Muddy Creek Basin - 1973

Station (map 2)	Discharge in liters x10 ⁶ /week during the month of:										Runoff in		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	cm for 1973
North Branch (#1)	30.1	41.5	29.6	46.9	20.2	11.8	4.5	0.86	0.17	12.2	7.4	17.3	38.4
Bluejay (#2)	24.0	34.3	24.0	37.7	15.4	10.3	3.4	*	*	10.3	6.9	13.7	41.7
Williamson (#3)	32.6	46.3	32.6	51.4	22.3	12.0	3.4	*	*	12.0	6.9	18.8	38.4
Main Branch + South Branch (Just below #4)	175.0	230.0	171.0	255.0	116.0	68.5	22.3	*	*	70.0	39.0	103.0	45.8
Steinlein	20.6	27.4	20.6	30.8	13.7	8.6	3.4	*	*	8.6	5.1	12.0	44.2

*Less than 0.8 - dry bed most of the time.

Table Fresh Water Discharged by North Branch Muddy Creek at Station 1 (map 2)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
1	4.32	15	2.72	29	18.08
2	3.70	16	2.59	30	7.09
3	3.58	17	2.72	31	5.93
4	7.43	18	2.72	32	5.43
5	4.77	19	4.32	33	29.90
6	3.95	20	3.70	34	12.40
7	3.46	21	2.59	35	8.64
8	3.09	22	3.80	36	6.50
9	2.84	23	3.58	37	6.50
10	2.72	24	2.72	38	8.89
11	2.59	25	2.40	39	8.27
12	2.59	26	2.40	40	7.09
13	2.59	27	9.29	41	5.43
14	2.72	28	7.73	42	4.47

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
42	4.47	56	3.09	70	4.08
43	4.32	57	3.21	71	3.83
44	4.08	58	3.09	72	3.46
45	5.11	59	2.84	73	3.33
46	9.11	60	2.72	74	3.21
47	5.43	61	2.84	75	3.48
48	4.08	62	4.30	76	6.89
49	3.83	63	6.10	77	4.08
50	3.70	64	4.32	78	3.46
51	3.58	65	4.47	79	3.09
52	3.83	66	4.20	80	2.96
53	3.95	67	5.09	81	2.96
54	3.58	68	4.47	82	2.59
55	3.21	69	3.95	83	2.49

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
84	2.89	98	14.35	112	3.09
85	14.13	99	8.08	113	2.84
86	5.93	100	9.66	114	2.59
87	4.32	101	6.30	115	3.06
88	3.83	102	5.93	116	11.76
89	4.47	103	5.26	117	14.13
90	4.89	104	4.77	118	7.68
91	13.98	105	4.62	119	5.43
92	12.35	106	4.32	120	4.62
93	6.89	107	4.08	121	4.08
94	12.45	108	3.95	122	3.46
95	8.27	109	3.83	123	3.71
96	6.10	110	3.58	124	3.21
97	5.43	111	3.33	125	2.84

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
126	2.40	140	1.93	154	3.01
127	2.20	141	1.61	155	1.28
128	2.30	142	1.24	156	1.14
129	3.33	143	2.54	157	1.04
130	2.20	144	6.27	158	0.89
131	1.93	145	8.90	159	0.99
132	1.68	146	4.08	160	3.58
133	1.61	147	4.47	161	2.35
134	1.53	148	7.01	162	1.43
135	1.68	149	3.58	163	1.04
136	1.75	150	2.40	164	0.84
137	1.53	151	1.70	165	0.69
138	1.38	152	1.75	166	0.54
139	1.46	153	3.80	167	1.28

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
168	1.38	183	1.14	198	0.22
169	1.33	184	3.80	199	0.20
170	1.19	185	3.01	200	0.15
171	1.09	186	1.28	201	0.22
172	6.80	187	0.94	202	0.25
173	4.92	188	0.74	203	0.72
174	2.25	189	0.59	204	0.44
175	1.73	190	0.54	205	0.27
176	1.38	191	0.49	206	0.22
177	1.19	192	0.64	207	0.20
178	1.09	193	0.49	208	0.15
179	1.14	194	0.40	209	0.12
180	3.14	195	0.35	210	0.09
181	1.43	196	0.35	211	0.09
182	1.04	197	0.35	212	0.08

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
213	0.09	227	0.07	241	0
214	0.57	228	0.15	242	0
215	0.84	229	0	243	0
216	0.50	230	0.02	244	0
217	0.37	231	0.12	245	0
218	0.22	232	0.05	246	0
219	0.15	233	0.07	247	0
220	0.10	234	0.08	248	0
221	0.10	235	0.12	249	0
222	0.07	236	0.05	250	0
223	0.12	237	0	251	0.02
224	0.12	238	0	252	0.02
225	0.12	239	0	253	0
226	0.02	240	0	254	0

(continued)

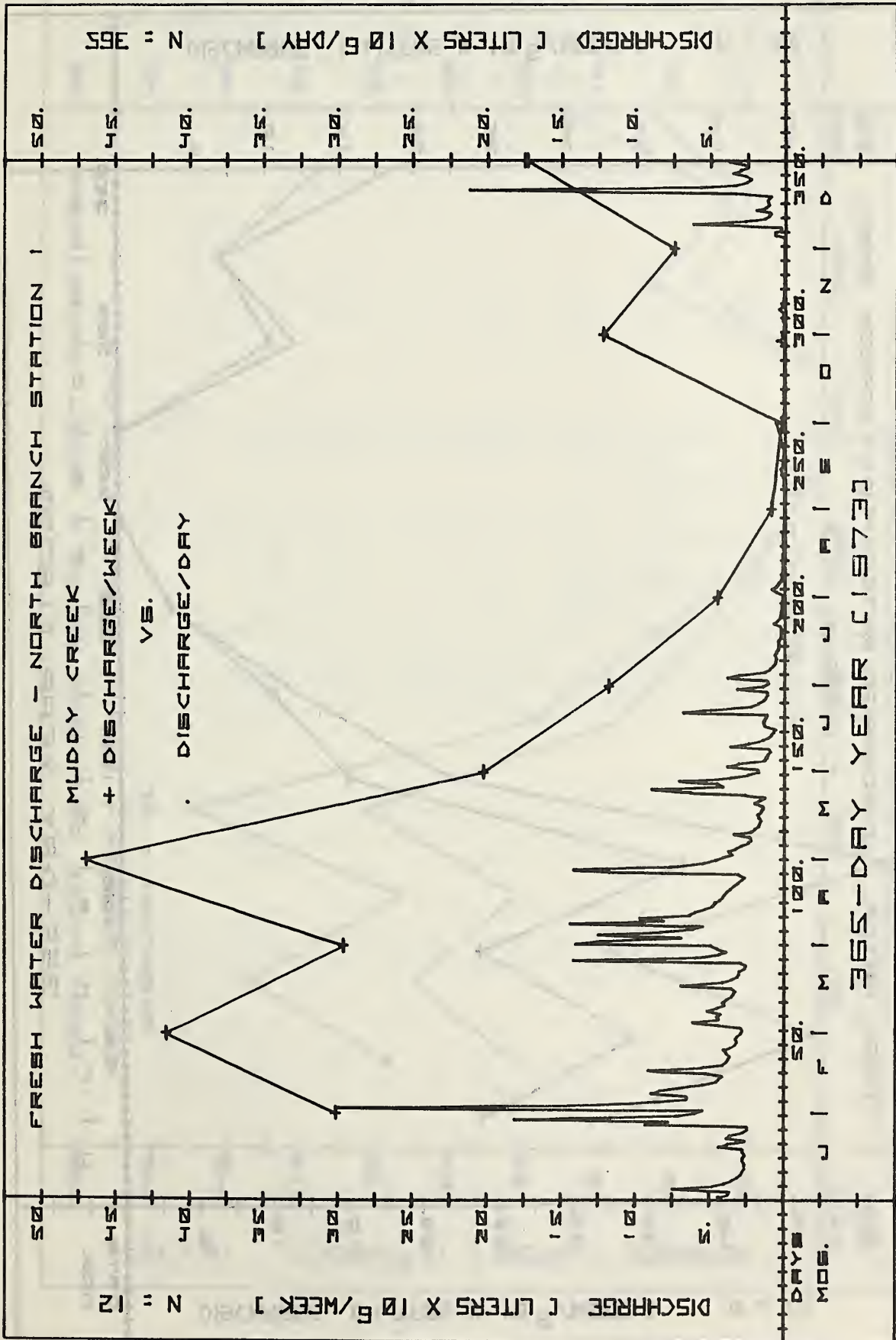
Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
255	0	269	0	282	0.02
256	0	270	0	283	0.05
257	0	271	0	284	0.05
258	0.27	272	0	285	0.02
259	0.12	273	0	286	0
260	0.07	274	0.57	287	0
261	0.05	275	0.17	288	0
262	0.02	276	0.05	289	0
263	0	277	0.02	290	0
264	0	278	0	291	0
266	0	279	0	292	0
267	0	280	0	293	0
268	0	281	0	294	0

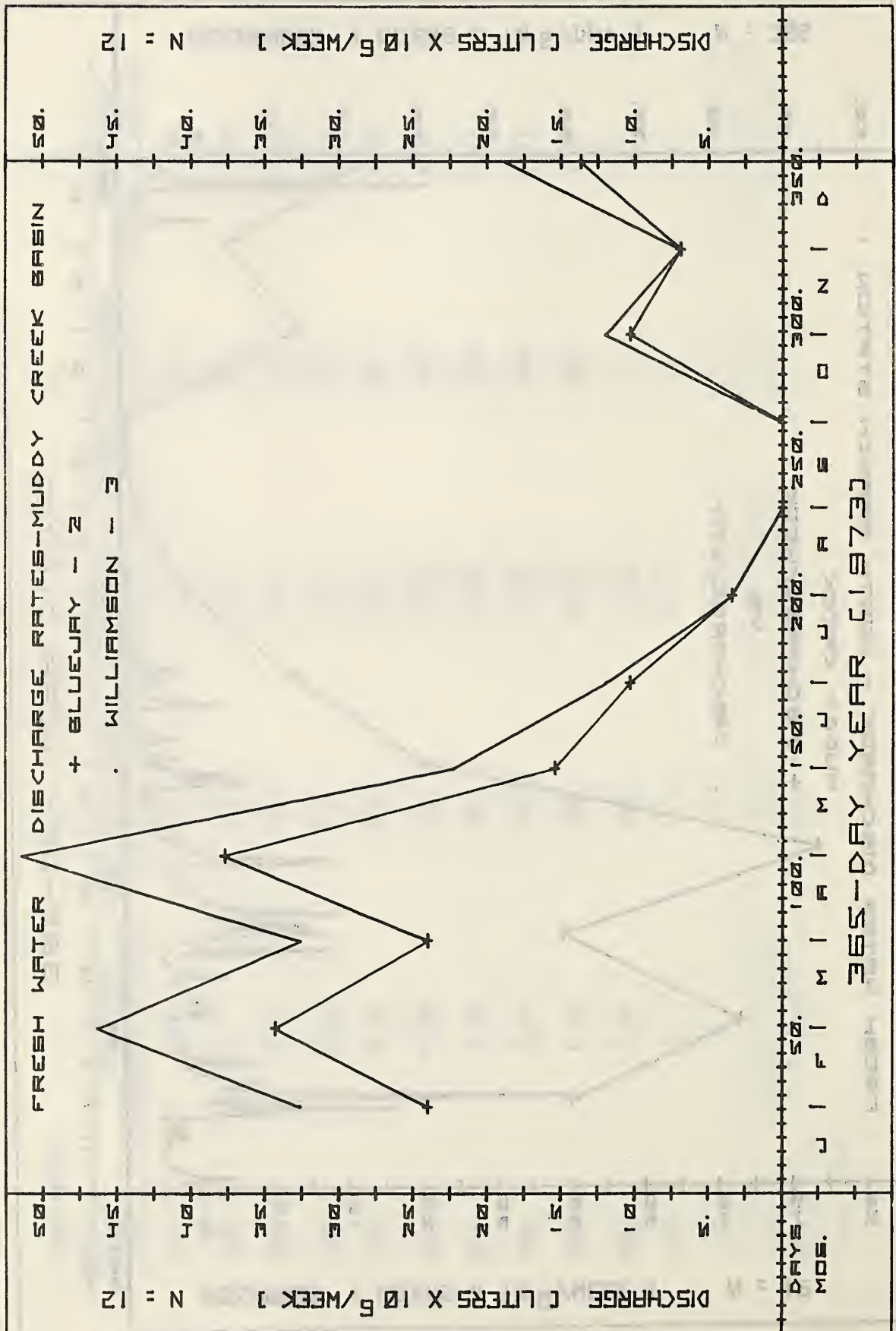
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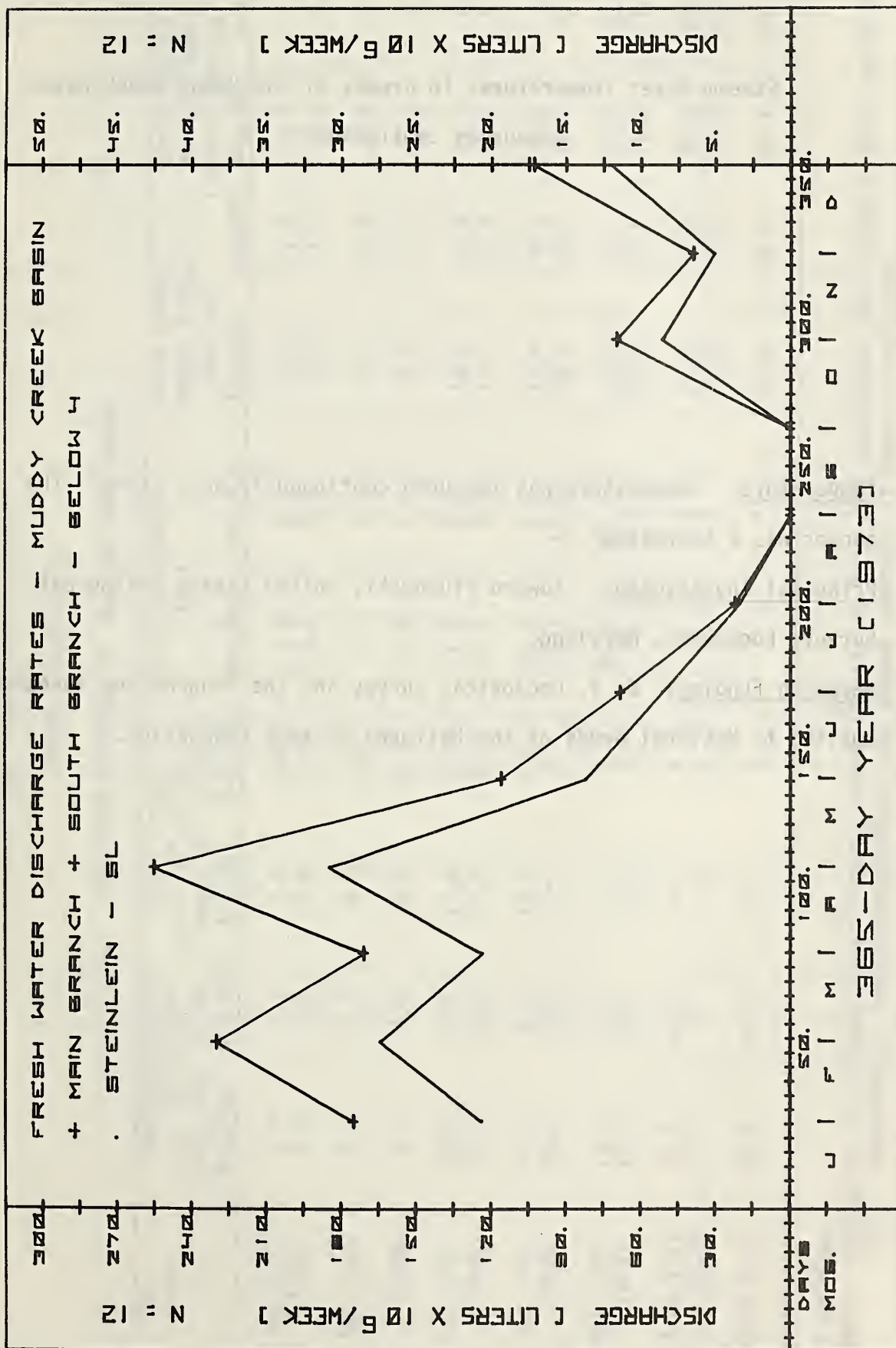
Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
295	0	309	0.10	323	0
296	0	310	0.10	324	0
297	0	311	0.05	325	0
298	0	312	0.05	326	0
299	0	313	0.35	327	0
300	0	314	0.15	328	0
301	0	315	0.10	329	0
302	0.50	316	0.05	330	0
303	0.15	317	0	331	0
304	0.15	318	0	332	0
305	0.10	319	0	333	0
306	0.02	320	0	334	0
307	0	321	0	335	0
308	0	322	0	336	0

(continued)

Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day	Day of 1973	Discharge Liters x 10 ⁶ /day
337	0	347	0.94	357	3.33
338	0	348	1.88	358	2.54
339	0.64	349	1.28	359	2.25
340	0.59	350	1.04	360	2.14
341	0.25	351	1.14	361	3.46
342	0.25	352	1.04	362	2.96
343	6.18	353	0.89	363	2.47
344	2.64	354	3.29	364	2.72
345	1.38	355	21.17	365	3.71
346	1.04	356	5.61		







Stream Water Temperatures in Creeks of the Muddy Creek Basin.
(degrees centigrade)

Temperature: Temperature was measured continuously on a chart. The sensor was a thermistor.

Principal Investigator: Edward Pluhowski, United States Geological Survey, Edgewater, Maryland.

Research Funding: U. S. Geological Survey and the Program for Research Applied to National Needs of the National Science Foundation.

Stream-Temperature Summaries

Muddy Creek Basin

Locations from Map 2, degrees centigrade

Time Period	North Branch		Muddy Creek		Steinlein Branch (SL)		Main Branch Muddy Creek (Sta. 4)		South Branch Muddy Creek (South from Sta. 4)	
	Lat. 38° 53'20"	Long. 76° 33'40"	Lat. 38° 53'50"	Long. 76° 33'50"	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.
	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.	Avg.Max.	Avg.Min.
Jan 1-15	3.9	1.7	4.6	1.8	3.6	1.1	3.9	1.8	3.1	1.1
16-31	5.0	1.5	5.8	1.6	6.2	0.8	5.3	1.7	5.3	0.6
Feb 1-15	5.1	2.5	6.9	2.8	6.1	1.9	5.3	2.6	5.2	1.7
16-28	5.1	1.0	6.7	0.9	6.9	0.5	5.0	1.2	5.4	0.5
Mar 1-15	10.0	5.7	11.0	5.7	11.7	5.9	10.2	5.9	11.7	5.8
16-31	10.6	5.2	11.6	5.4	13.4	4.9	10.7	5.8	12.0	5.0
Apr 1-15	12.3	6.5	12.5	7.0	15.7	6.4	12.4	6.5	14.0	5.6
16-30	16.6	10.6	*	*	20.3	10.3	16.3	10.6	18.6	10.2
May 1-15	16.4	11.8	*	*	21.9	11.7	16.3	11.5	18.6	10.9
16-31	15.5	12.7	*	*	*	*	15.0	12.1	16.5	11.6
June 1-15	21.8	18.2	*	*	*	*	21.4	17.3	23.5	16.8
16-30	*	*	*	*	*	*	20.5	18.2	21.6	17.8
July 1-15	23.1	20.3	*	*	*	*	22.6	19.4	24.1	19.4

* No Flow

Note: Virtually all streams began flowing intermittently in late July continuing this pattern until early December 1973. Accordingly, stream-temperature data became speratic at nearly every site.

Physical Data on Water Masses for Segments of Rhode River

Technique: Surface area, Volume, and average depth data were obtained by planimetering detailed bathymetric maps of the estuary. A temperature-salinity data for horizontal transects at a series of times are used to calculate volume averaged concentrations of salt and density patterns for water masses in the estuary. Recording, moored current meters are used to record direction and velocity of surface and bottom water currents. Steady state dye experiments are conducted in which a fluorescent dye is pumped into the water at a constant rate and horizontal transects are run of dye concentrations. The dye concentration distribution patterns and rates of approach to equilibrium are determined. All of these data are used to calculate and numerically model the water mass exchange rates.

Principal Investigator: Donald W. Pritchard, Chesapeake Bay Institute, John's Hopkins University.

Research Funding: Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Science Program.

Table Physical Data on Water Masses for Segments of Rhode River.

Segment (map 3)	Surface area at mean low water (hectares)	Volume at mean low water (x10 ⁴ M ³)	Average depth at mean low water (M)	Exchange Coefficient (x10 ⁴ M ³ /tidal cycle)	
				Salinity Increasing	Salinity Decreasing
West River Km 0.0 to RR Km 0.0	326	640	1.95	623 (Bay - West River)	*
RR Km 0.0 to RR Km 1.9	145	349	2.41	144 (across RR Km 0.0)	*
Cadle Creek	19.9	28.6	1.43	4.24 (RR - CC)	7.64 (RR - CC)
RR Km 1.9 to RR Km 3.7	152	375	2.47	79 (across RR Km 1.9)	*
Bear Neck and White Marsh Creeks	60.7	93	1.50	23.5 (across BNC Km 0.0)	*
Sellman Creek	25.0	41	1.60	*	*

(continued)

Segment (map 3)	Surface area at mean low water (hectares)	Volume at mean low water ($\times 10^4 \text{ M}^3$)	Average depth at mean low water (M)	Exchange Coefficient ($\times 10^4 \text{ M}^3/\text{tidal cycle}$)	
				Salinity Increasing	Salinity Decreasing
RR Km 3.7 to RR Km 4.6	56	83	1.5	17.8 (across RR Km 3.7)	*
RR Km 4.6 to RR Km 5.5	26	14	0.55	*	*
					338

* Data not complete at this time.

Suspended Particulates and Bottom Sediments

Silicon determined as Reactive Silicate

Metals (K,Na,Ca,Mg,Fe)

Humic Acids

Silicon - Dissolved reactive silicates were measured using Beckman DU spectrophotometer. (J. P. H. Strickland and T. R. Parsons (1972), "Determination of Reactive Silicate", A Practical Handbook of Seawater Analysis, pp 65-70, Fisheries Research Board of Canada). Particulate and sediment samples were fused with Lithium metaborate previous to the spectrophotometric measurements. (T. H. Medlin, N. H. Shur and J. B. Bodkin (1969), "Atomic Absorption Analysis of Silicates employing LiBO₂ Fusion", Atomic Absorption Newsletter, 8, pp 25-29).

Metals (K,Na,Ca,Mg,Fe) - Particulate and sediment samples were fused with Lithium metaborate and measured with Jarrel Ash 82-500 Atomic Absorption spectrophotometer.

Humic Acids - Estimated spectrophotometrically at 520 nm (M. E. Hair and C. R. Bassett (1973), "Dissolved and Particulate Humic Acids in an East Coast Estuary", Estuarine and Coastal Marine Science, 1, pp 107-111.

Principal Investigator: Tung Lin Wu, Chesapeake Bay Center for Environmental Studies, Smithsonian Institution.

Research Funding: Smithsonian Postdoctoral Fellowship and Project Funds of Dr. Jack W. Pierce.

Table Metal Elements of Suspended Particulate Samples (ug atoms/l).

Day of 1973	Location (RR Km, map 3)				
	0.4	1.5	2.5	3.1	3.7
<u>318 Surface</u>					
Ca	4.72	2.37	2.37*	2.37	3.14*
Mg	10.30	10.30	10.30*	10.30	7.50*
K	6.80	6.10	3.40*	4.80	3.40*
Na	60.80	57.60	54.20*	50.80	23.80*
Fe	1.60	1.60	0.00*	2.50	0.39*
<u>2 Meter</u>					
Ca	3.14	3.14	*	5.50	*
Mg	10.30	11.20	*	14.90	*
K	0	8.20	*	10.20	*
Na	44.00	47.50	*	152.00	*
Fe	4.00	16.20	*	0.82	*

* Maximum turbidity water samples.

Table Humic Acid Concentrations in Dissolved and Suspended Fractions
of Water Samples (ug/l).

Day of 1973	Location (RR Km, map 3)				
	0.4	1.5	2.5	3.1	3.7
<u>291</u>					
<u>Dissolved</u>					
Surface	0	0	40	0	
2 Meter	0	0		120	0
<u>Particulate</u>					
Surface	40	40	60	40	40
2 Meter	60	0		220	

Table Results of Constituents Analysis of Bottom Sediment Samples.
 (ug atom/g of dry sediment weight, except the concentration
 of Humic Acid in ug/g of dry sediment weight).

Day of 1973	Constituent	Location (RR Km, map 3)			
		0.9	1.5	0.5 Km South of 2.9	5.2
236	Si	-	960	1185	798
	Ca	-	3.9	0	0
	Mg	-	7.4	5.5	6.0
	K	-	214	231	170
	Na	-	339	373	356
	Fe	-	175	240	188
	Humic Acid	2170	3225	4590	6400

Table Silica Analysis of Water Samples (ug atoms Si/l)

Day of 1973	Location (RR Km, map 3)									
	0.4	1.5	2.5	3.1	0.2 Km North of 3.4	3.7	0.4 Km East of 4.4	5.2	BNC Km 0.0	SC Km 0.9
291										
<u>Dissolved</u>										
Surface	-	28.8	27.4	-	22.9	23.8	27.3	22.4	26.1	24.9
2 Meter	-	30.0	29.2	-	25.5	25.4	-	-	24.7	20.8
318										
<u>Dissolved</u>										
Surface	26.1	27.3	25.4	26.2	-	23.0	-	-	-	-
2 Meter	26.1	27.8	25.4	40.2	-	-	-	-	-	-
<u>Particulate</u>										
Surface	18.9	20.1	7.2	16.7	-	9.4	-	-	-	-
2 Meter	3.3	22.6		15.4						

Suspended Particles in Fresh and Estuarine Waters

Techniques: Spot samples of water were taken either with a modified stream sampler or 3 l Niskin bottles. The water was filtered through 47 mm diam., 0.45 um pore size, pretreated membrane filters. Gravimetric methods were used for concentrations of total solids (Banse, Ki; Falls, C. P.; Hobson, L. A. (1963). Deep Sea Research 10; 639-642.). Oxidizable organic matter was determined as described in the bottom sediment section of the report.

Mineralogy was determined as described in the soils analysis section of this report. Light transmission measurements were made, using a Hydro-Products transmissometer, a 10cm path length, with a light source filtered to produce 410 nm light. Water samples were taken to correlate percent transmission to particulate concentration. A regression of optical density on concentration permits conversion of optical density readings to concentration according to the formula:

$$\text{Conc} = \frac{(\text{O.D.} + 0.04234)}{0.01478} \quad (\text{mg/l})$$

Aggregation status of particles and size of particles determined by filtering small volumes of water samples through 0.45 um pore size membrane filters followed by the direct mounting of the filters, plating, and scanning electron microscopy.

Principal Investigator: Jack W. Pierce, Department of Paleobiology, National Museum of Natural History, Smithsonian Institution.

Research Funding : Smithsonian Research Foundation and Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Science Program.

Table Suspended Particle Size Analysis - Fresh Water Streams of the Muddy Creek Basin - 1973

Station	Day of Year	% in each size class (um)						Mean Size (um)
		over 7.8-	3.9- 7.8	1.95- 3.9	0.975- 1.95	0.487- 0.975	0.243- 0.487	under 0.243
1 (map 2)	225	0.4	1.6	4.9	21.5	43.9	22.8	4.9
North Branch (38°53'47"N, 76°33'51"W)	225	0.0	1.2	6.2	25.7	39.0	22.8	5.0
4 (map 2)	225	0.0	2.2	17.2	20.1	29.6	16.4	4.5
4 (map 2)	220	0.0	1.5	9.1	31.3	33.8	14.1	10.1
Mill Swamp Br. (38°53'00"N, 76°34'46"W)	220	0.0	1.5	2.0	23.4	45.2	25.4	2.5

Table Suspended Particle Concentrations in Fresh Water Streams of the Muddy Creek Basin - 1973

Station 1 (map 2) Day of Year	Concentrations (mg/l)		
	Total	Mineral	Organic
169	16.7	16.7	0.0
178	18.5	10.2	8.3
183	22.3	9.9	12.4
192	19.1	9.3	9.8
201	13.1	13.1	0.0
205	15.9	13.3	2.6
211	28.0	14.8	13.2
225	15.3	12.5	2.8

North Branch (38°53'47"N, 76°33'51"W)

169	8.2	3.3	4.9
178	7.7	7.0	0.7
183	13.3	3.9	9.4
192	100.0	31.9	68.1
201	9.9	9.8	0.1
205	16.4	12.8	3.6
211	41.7	13.5	28.2
220	12.4	9.3	13.1
225	17.4	7.1	10.3

(Continued)

<u>Station 2 (map 2)</u>		<u>Concentrations (mg/l)</u>		
<u>Day of Year</u>	<u>Total</u>	<u>Mineral</u>	<u>Organic</u>	
169	21.6	16.9	4.7	
178	22.2	11.4	9.8	
183	39.0	15.7	23.3	
192	28.9	9.4	19.5	
201	41.2	34.6	6.6	
205	18.0	9.3	8.7	
211	147.7	119.6	28.1	
220	35.6	30.1	5.5	

Station 3 (map 2)

169	8.9	7.2	1.7
178	15.4	8.9	6.5
183	12.3	12.2	0.1
192	16.0	15.1	0.9
205	17.2	8.8	8.4

Station 4 (map 2)

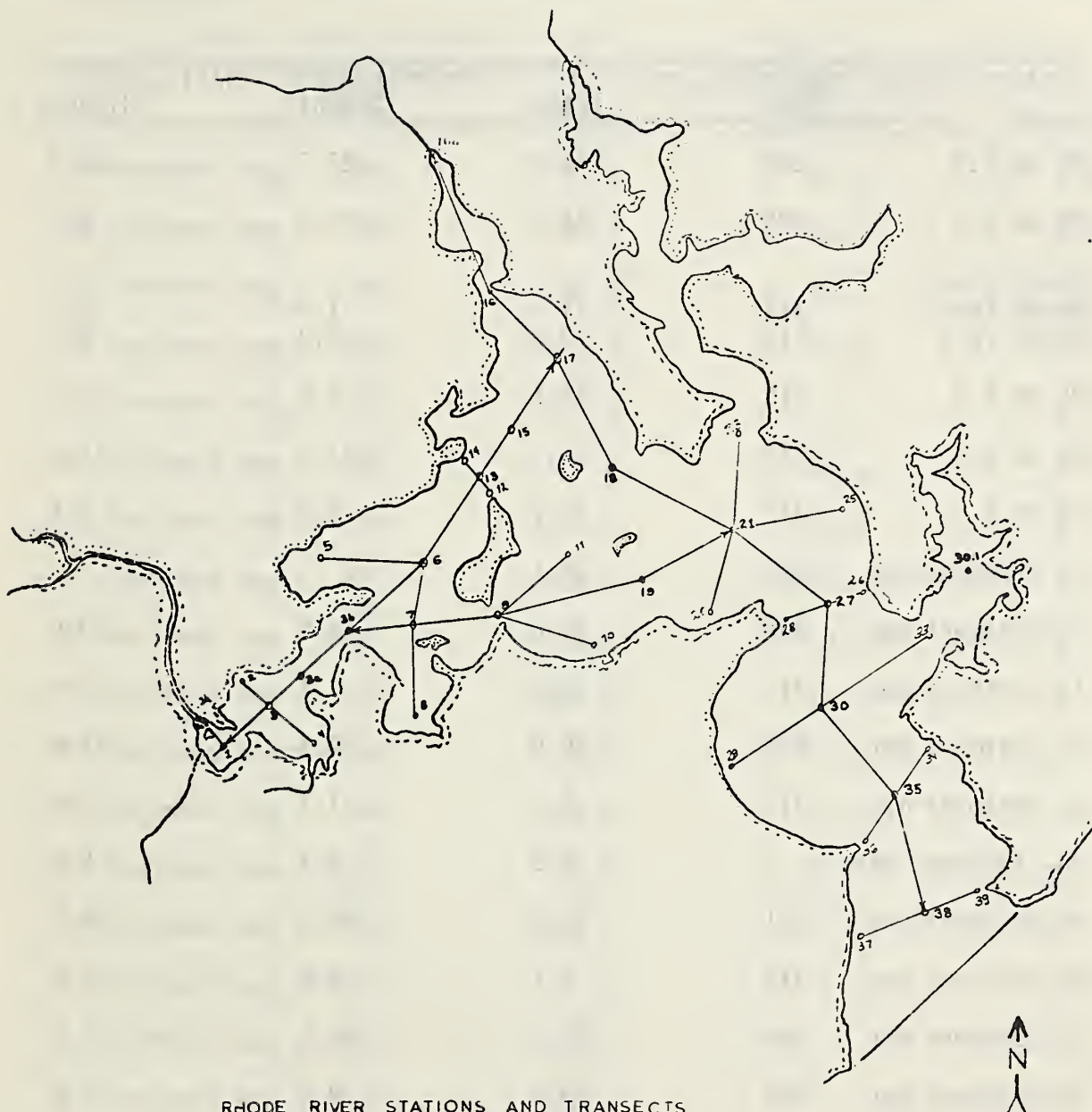
169	27.2	20.4	6.8
178	33.3	13.0	20.3
183	19.4	6.9	12.5
192	160.0	8.2	151.8
201	38.8	12.9	25.9

(Continued)

Station 4 (map 2) Day of Year	Concentrations (mg/l)		
	Total	Mineral	Organic
205	18.9	12.4	6.5
211	39.5	9.5	29.0
220	27.6	24.7	2.9
225	106.7	89.3	17.4

Mill Swamp Branch (38°53'00"N, 76°34'46"W)

178	337.7	234.9	102.8
183	27.4	19.2	8.2
192	344.0	35.1	208.9
201	26.0	25.1	0.9
205	22.1	22.0	0.1
211	72.1	45.1	27.0
220	27.9	20.9	7.0



RHODE RIVER STATIONS AND TRANSECTS
FOR SUSPENDED SEDIMENT STUDIES



Suspended Particulate Concentrations in Rhode River Surface Waters - 1973

Station	Day of Year	Concentrations (mg/l)		
		Total	Organic	Mineral
RR Km 6.9	225	66.5	23.5	43.0
RR Km 6.9	233	18.5	10.0	8.5
Muddy Creek				
North Fork	312	11.3	1.9	9.4
South Fork	312	3.8	0.8	3.0
RR Km 6.0	312	14.4	7.8	6.6
RR Km 5.5	174	56.1	14.2	42.0
RR Km 5.5	312	10.7	7.3	3.4
1- Sediment map	225	24.5	-	-
1- Sediment map	233	39.0	16.0	23.0
1- Sediment map	312	10.8	1.4	9.4
3- Sediment map	225	66.0	14.4	51.6
3- Sediment map	312	7.5	1.1	6.4
3A- Sediment map	2	12.0	2.4	9.5
3A-Sediment map	221	37.0	20.5	16.5
3A Sediment map	312	7.7	6.8	0.9
3A-Sediment map	324	21.0	15.8	5.2
3A-Sediment map	324	10.0	9.3	0.7
3B-Sediment map	221	40.5	-	-
3B-Sediment map	291	15.4	4.4	11.0
3B-Sediment map	312	9.2	1.5	7.7

(Continued)

Station	Day of Year	Concentrations (mg/l)		
		Total	Organic	Mineral
3B-Sediment map	324	22.5	21.8	0.8
3B-Sediment map	324	27.5	23.7	3.8
3B-Sediment map	324	46.0	38.7	7.3
3B-Sediment map	324	31.5	29.0	2.6
6 -Sediment map	312	7.8	1.6	6.2
6 -Sediment map	324	21.5	20.6	0.8
6 -Sediment map	324	25.0	22.4	2.6
6 -Sediment map	324	23.0	19.3	3.7
6 -Sediment map	324	41.0	38.7	2.2
7 -Sediment map	324	20.5	18.5	2.0
7 -Sediment map	324	20.0	11.9	8.1
7 -Sediment map	324	20.0	17.0	3.0
9 -Sediment map	221	33.5	23.5	10.5
9 -Sediment map	253	20.7	7.0	13.7
9 -Sediment map	291	7.6	0.3	7.3
9 -Sediment map	324	8.0	-	-
9 -Sediment map	324	21.0	-	-
11-Sediment map	233	18.5	10.0	8.5
11-Sediment map	324	19.5	17.4	2.1
13-Sediment map	221	11.0	2.0	9.0
13-Sediment map	253	21.3	15.1	6.2

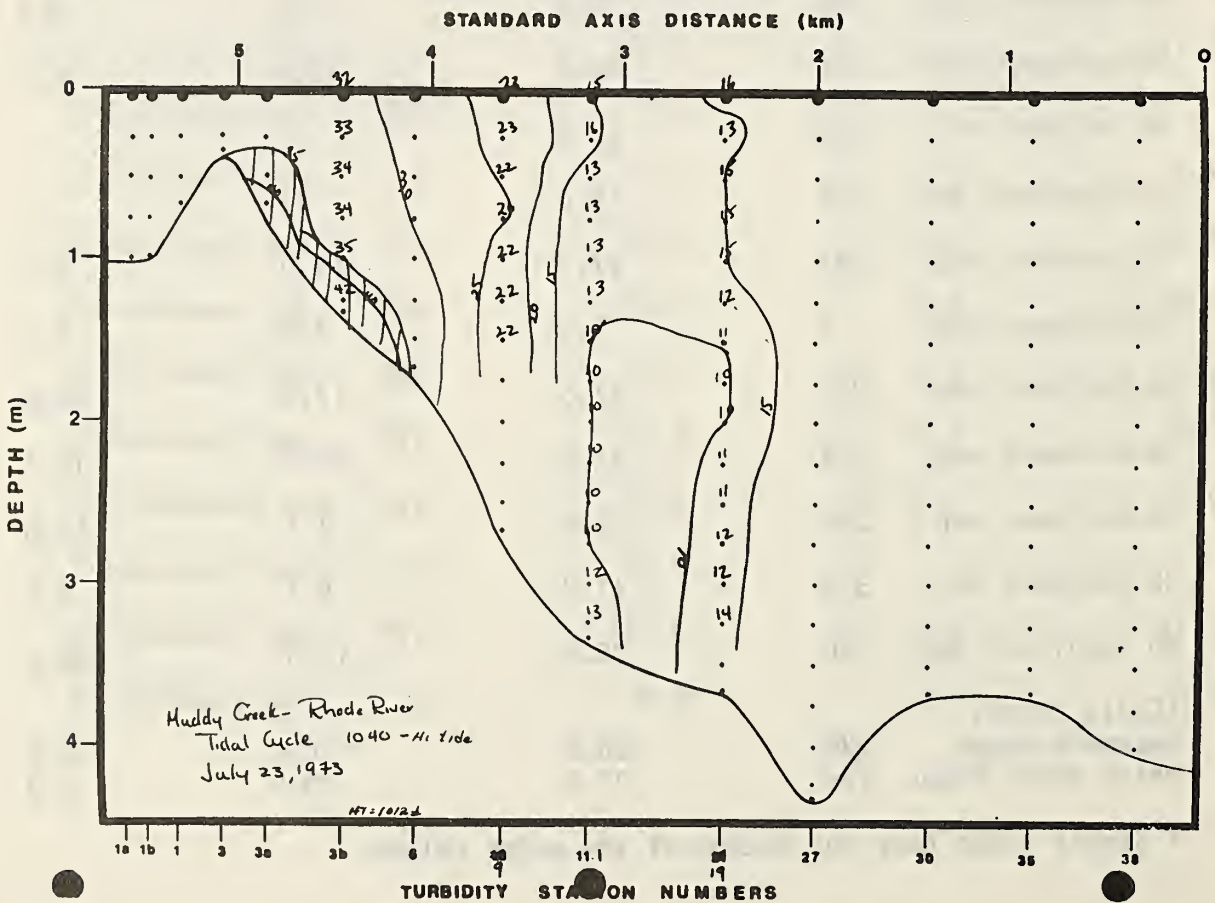
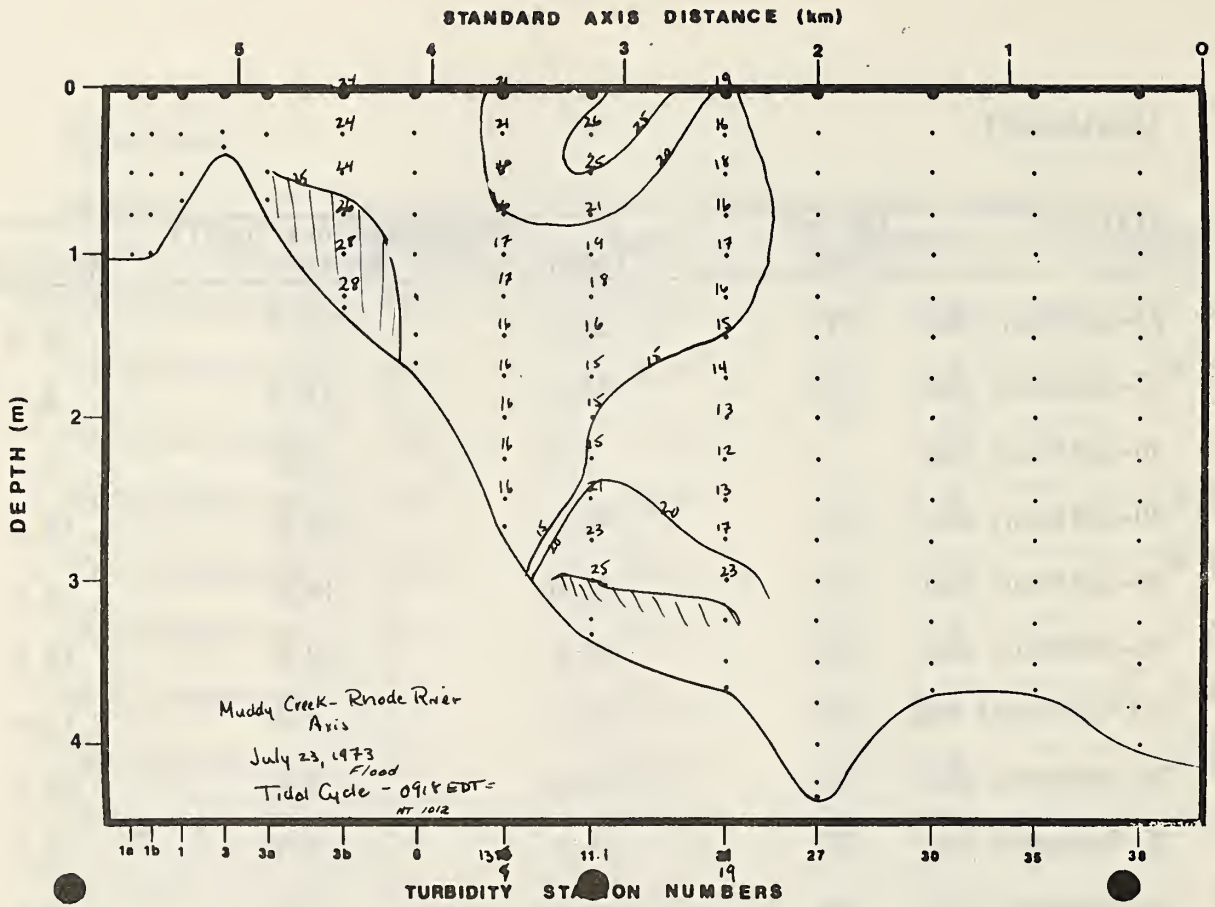
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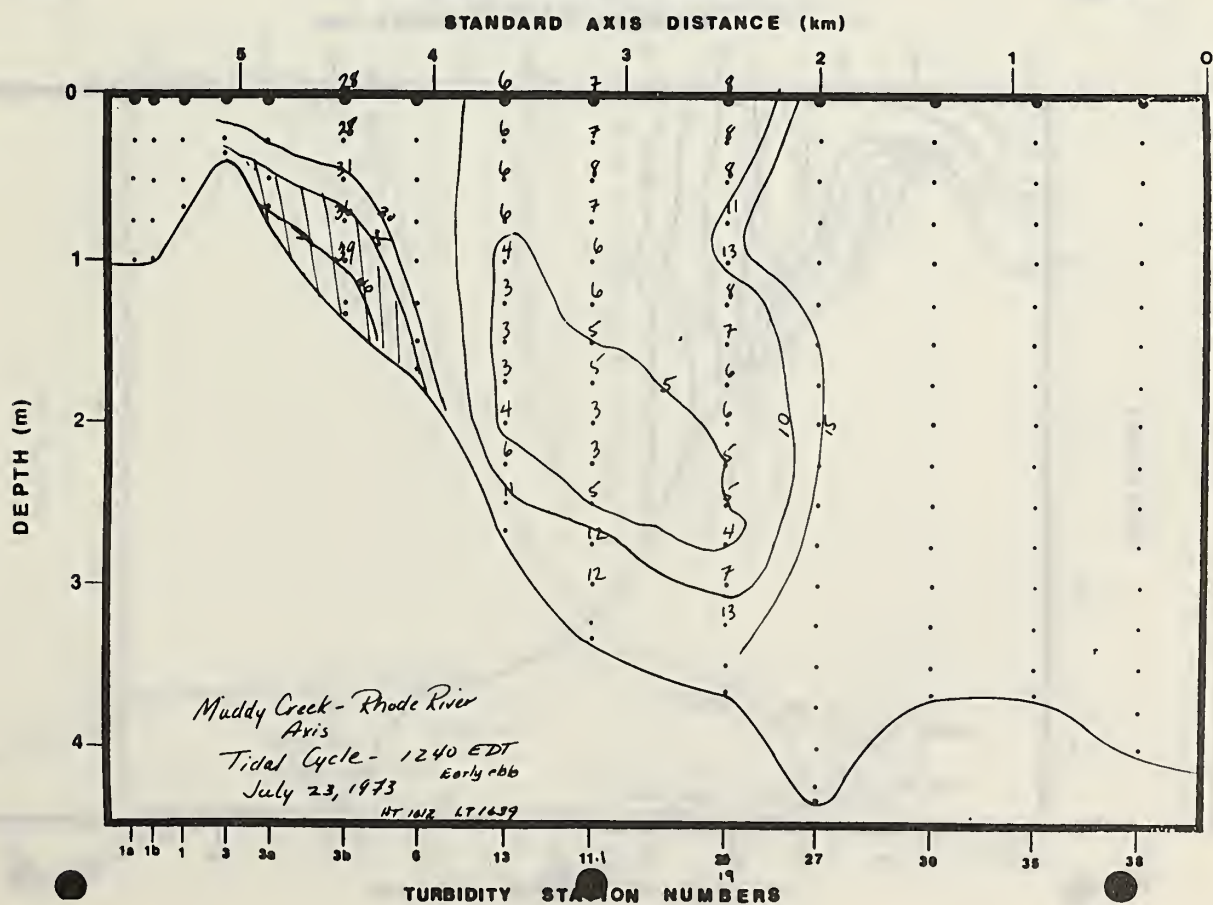
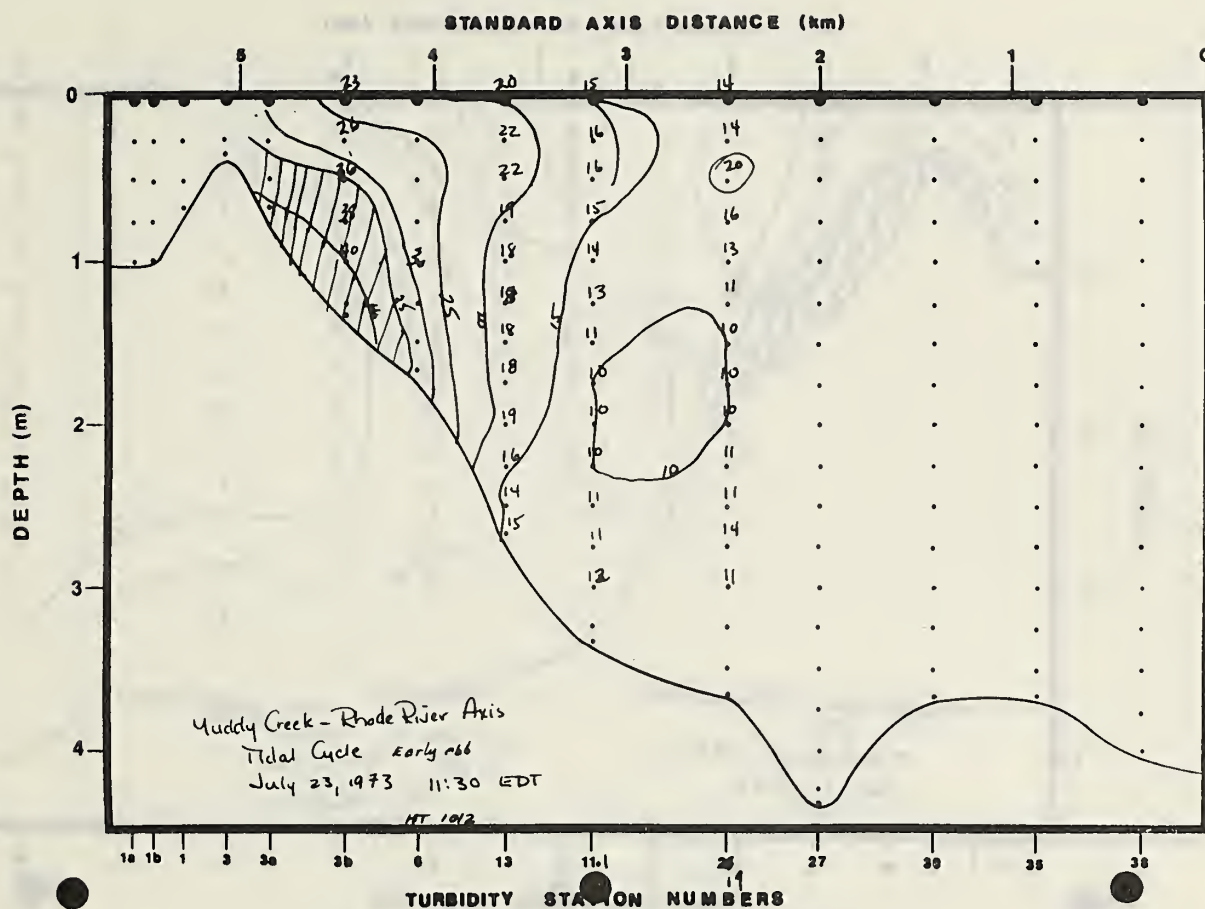
Station	Day of Year	Concentrations (mg/l)		
		Total	Organic	Mineral
13-Sediment map	291	18.5	6.6	11.9
13-Sediment map	312	5.6	1.0	4.6
13-Sediment map	318	3.0	1.8	1.2
13-Sediment map	324	19.5	16.4	3.1
13-Sediment map	324	20.0	15.9	4.1
15-Sediment map	291	17.8	12.4	5.4
16-Sediment map	291	16.3	6.9	9.4
16A-Sediment map	174	18.0	13.5	4.5
17-Sediment map	291	7.0	1.2	5.8
18-Sediment map	291	13.9	7.4	6.5
19-Sediment map	221	20.0	9.0	11.0
19-Sediment map	324	7.0	-	-
21-Sediment map	2	11.0	8.5	2.5
21-Sediment map	221	53.0	35.5	17.5
21-Sediment map	225	20.5	4.5	16.0
21-Sediment map	253	15.7	8.9	6.8
21-Sediment map	291	22.2	9.3	12.9
21L*Sediment map	291	10.4	0.6	9.8
21-Sediment map	324	10.0	-	-
23-Sediment map	291	15.5	4.5	11.0
27-Sediment map	2	9.0	5.0	4.0

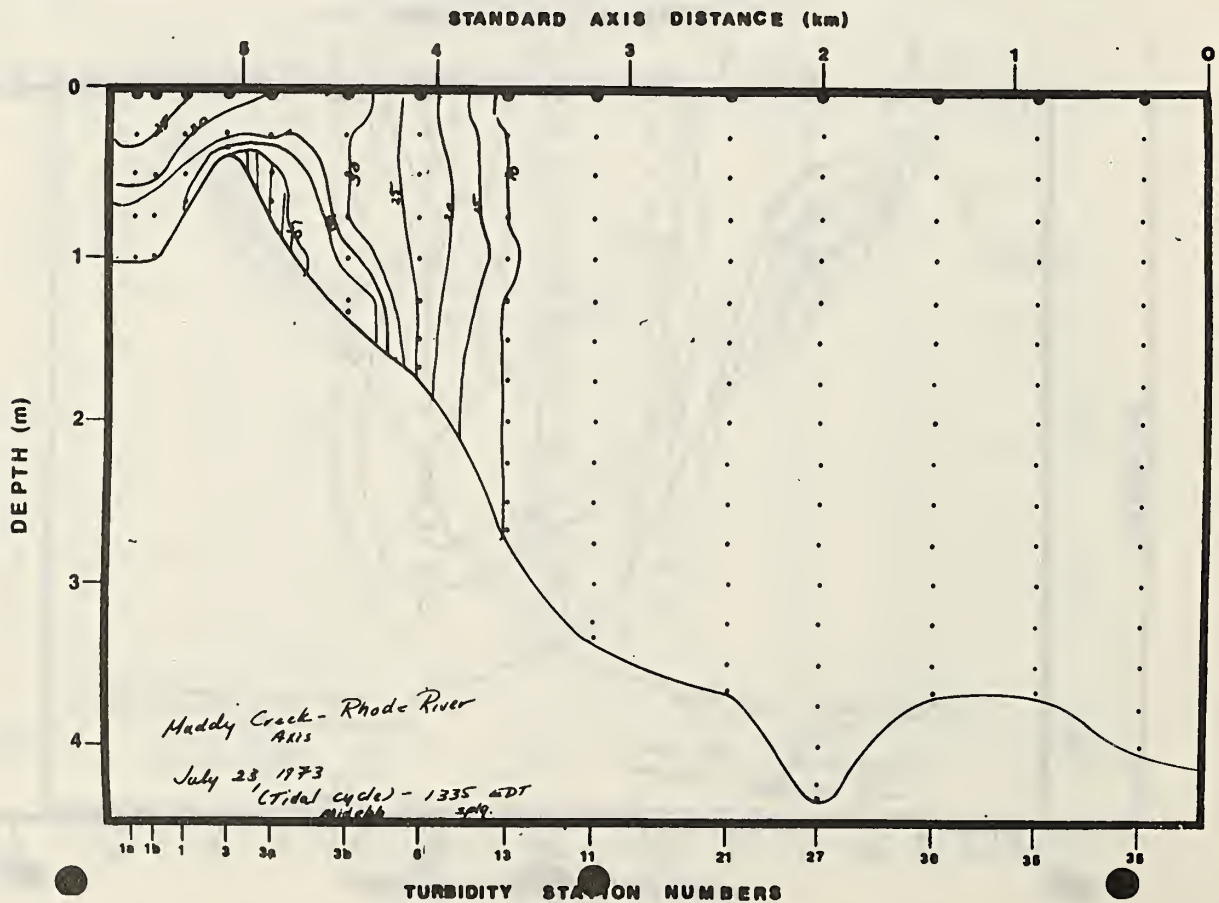
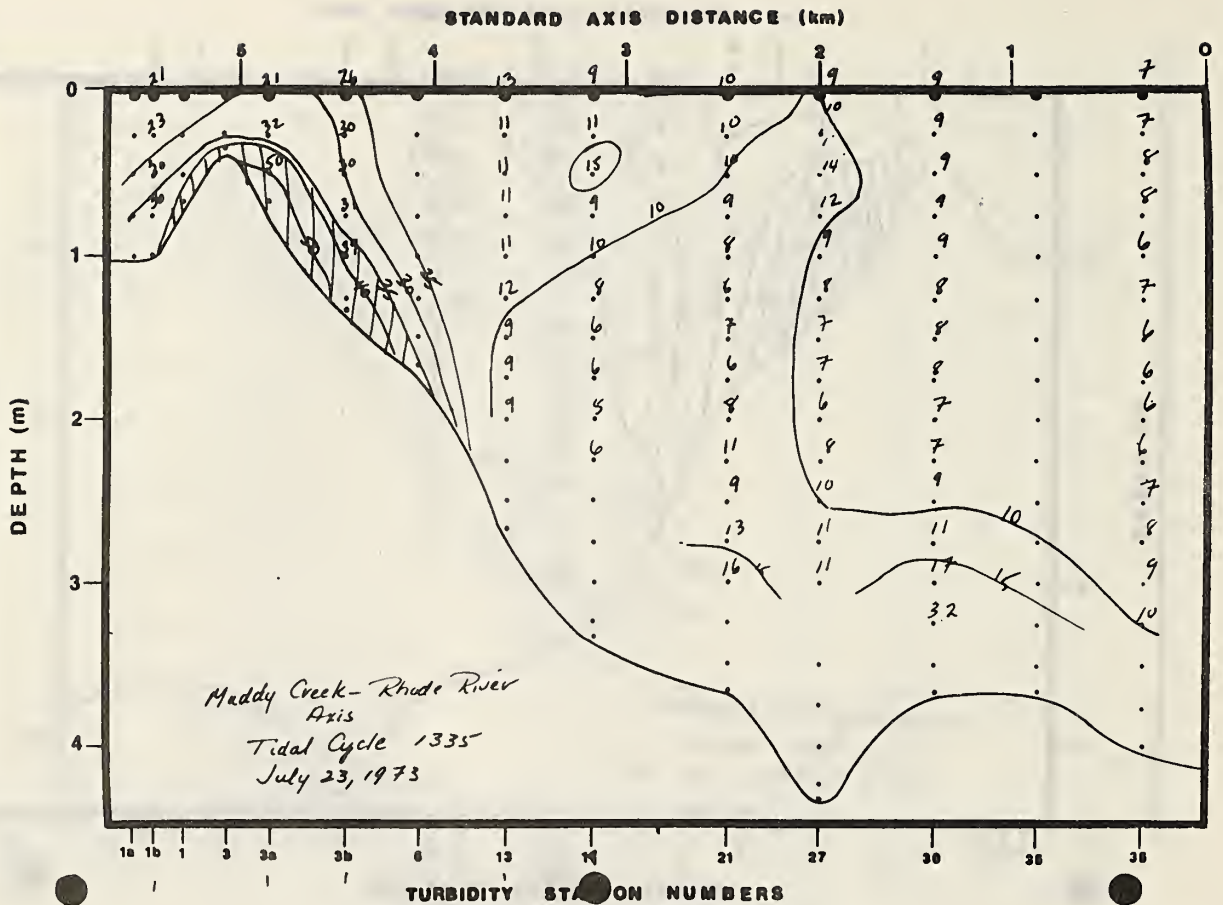
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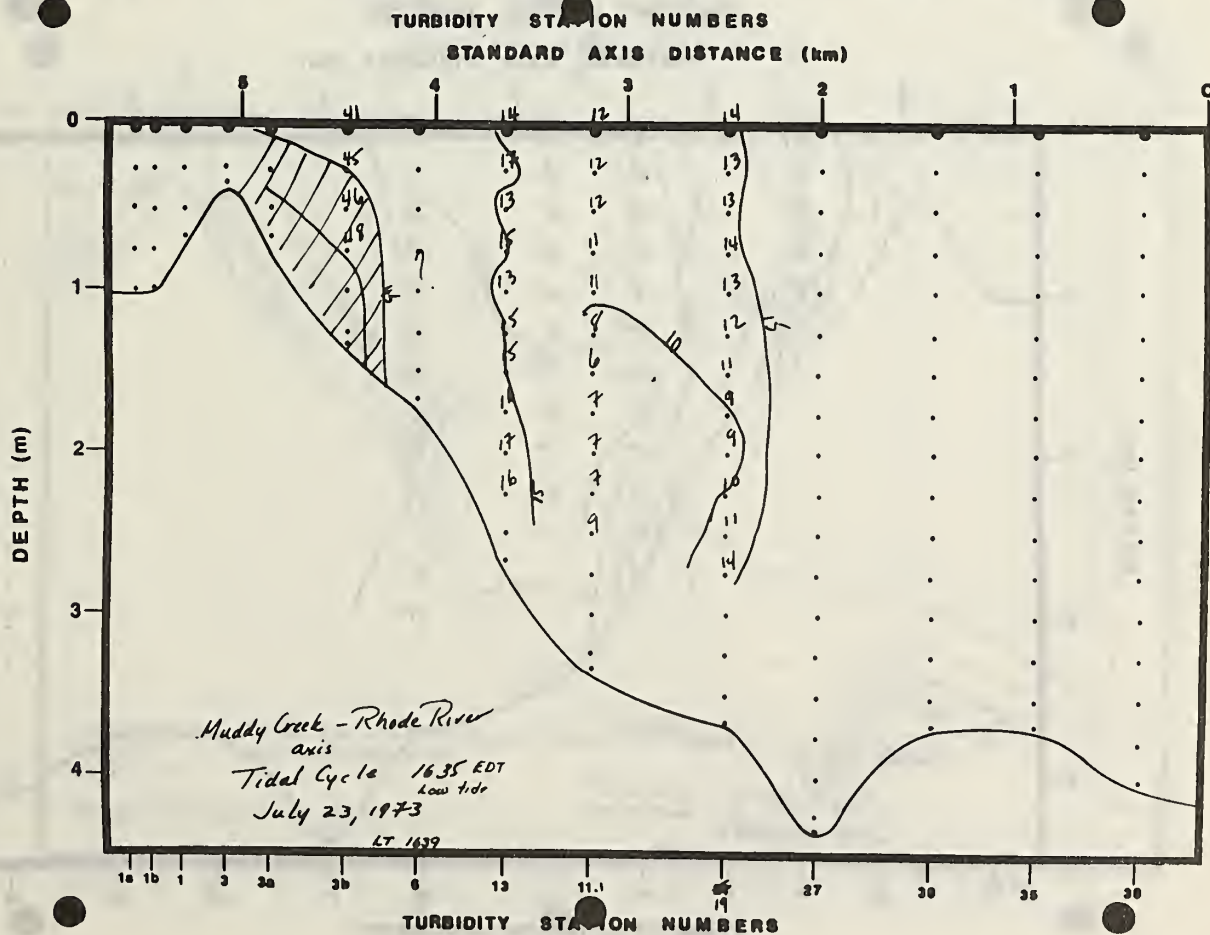
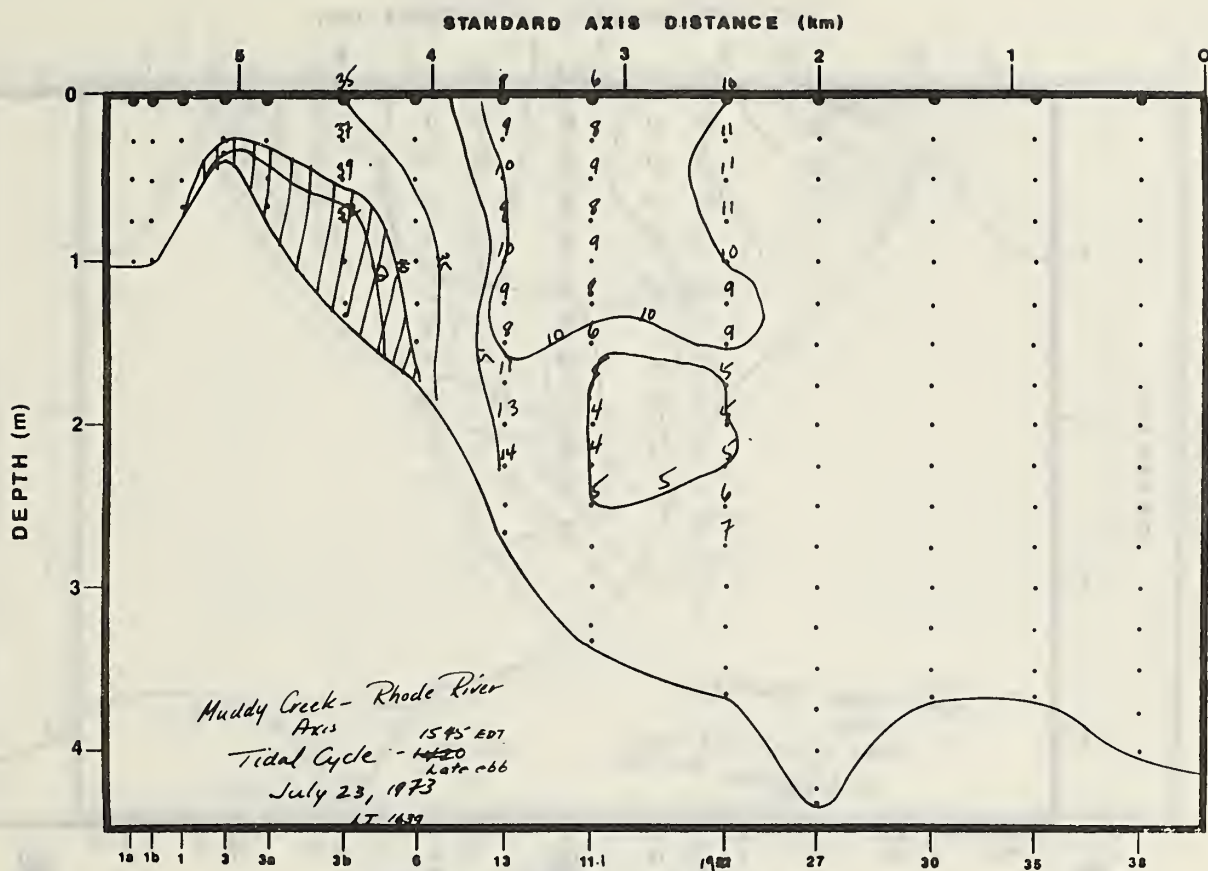
Station	Day of 1973	Concentrations (mg/l)		
		Total	Organic	Mineral
27-Sediment map	221	26.0	10.0	16.0
27-Sediment map	225	13.5	10.5	3.0
30-Sediment map	2	5.0	2.0	3.0
30-Sediment map	221	26.0	10.0	16.0
30-Sediment map	225	23.0	14.0	9.0
30-Sediment map	253	34.6	22.4	12.2
30L*Sediment map	291	14.0	2.4	11.6
30-Sediment map	291	10.6	0.4	10.2
30-Sediment map	321	6.6	2.3	4.3
30-Sediment map	348	6.0	3.2	2.9
35-Sediment map	221	43.0	33.5	8.5
35-Sediment map	225	12.5	-	-
35L*Sediment map	225	10.0	-	-
35-Sediment map	253	27.1	19.0	8.1
38-Sediment map	2	7.5	3.0	4.5
38-Sediment map	221	27.5	17.5	10.0
38-Sediment map	225	42.0	27.5	14.5
38-Sediment map	253	23.9	7.1	16.8
38-Sediment map	318	11.2	6.7	4.5
30.1Sediment map	236	36.5	12.5	24.0
(Cadle Creek)				
Bearneck Creek	236	26.5	16.5	10.0
White Marsh Creek	236	32.0	23.0	9.0

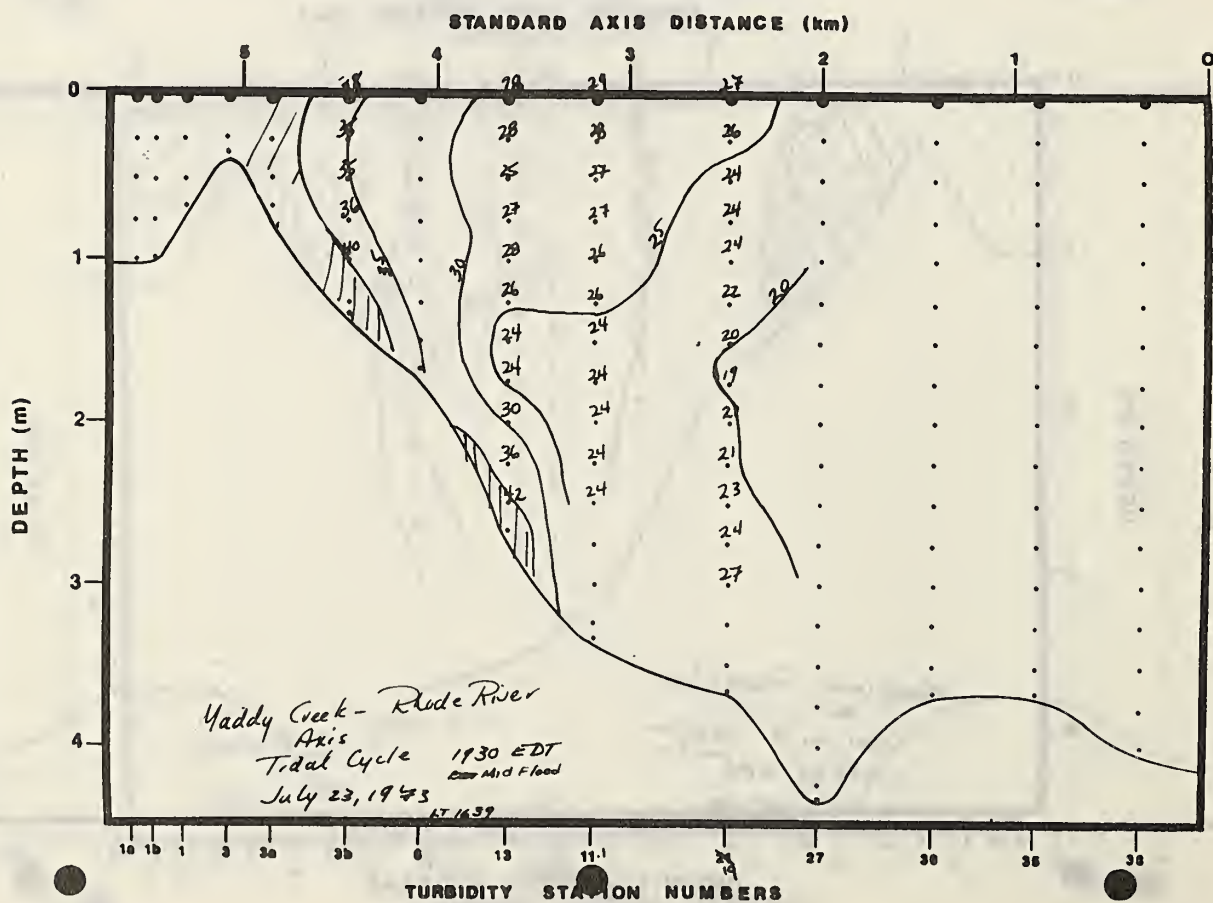
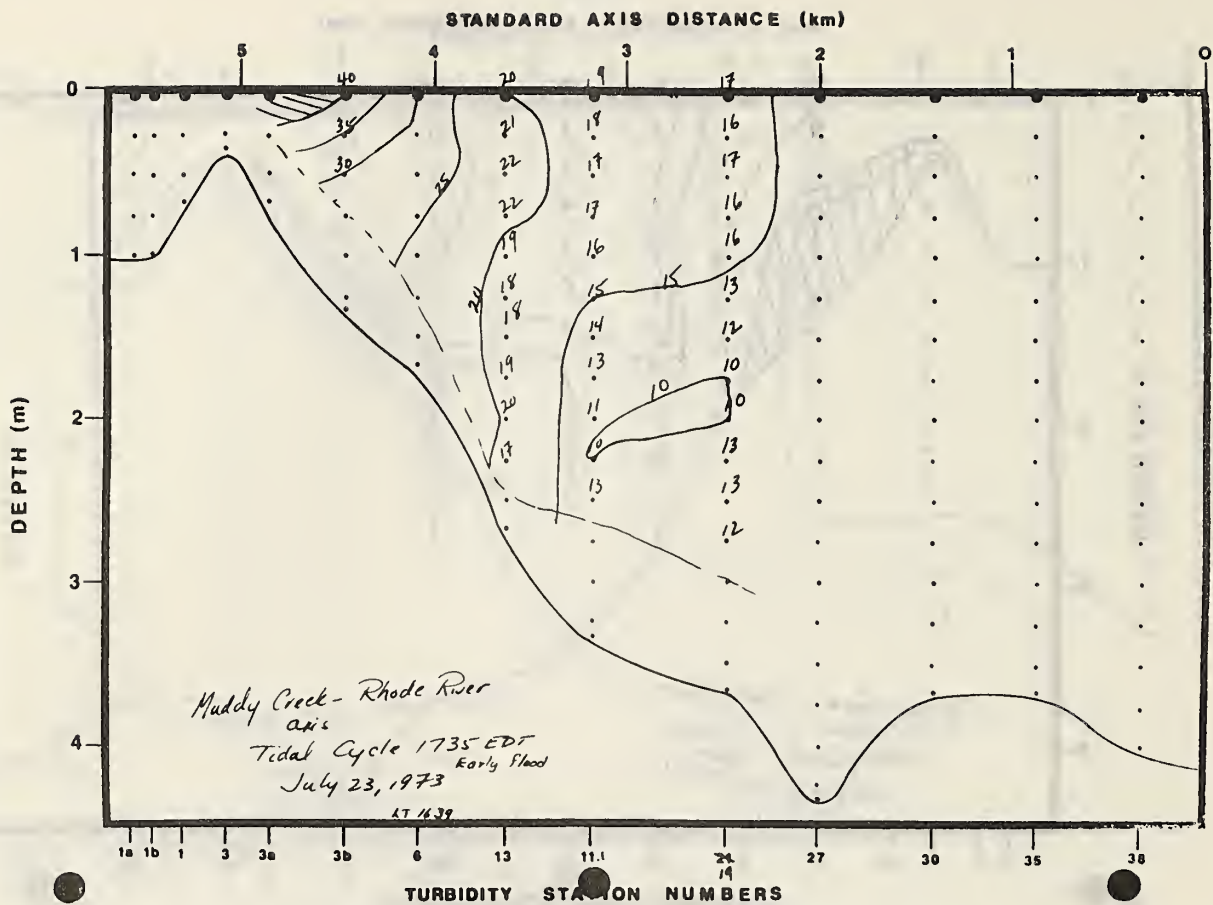
* Sample taken near the bottom of the water column.

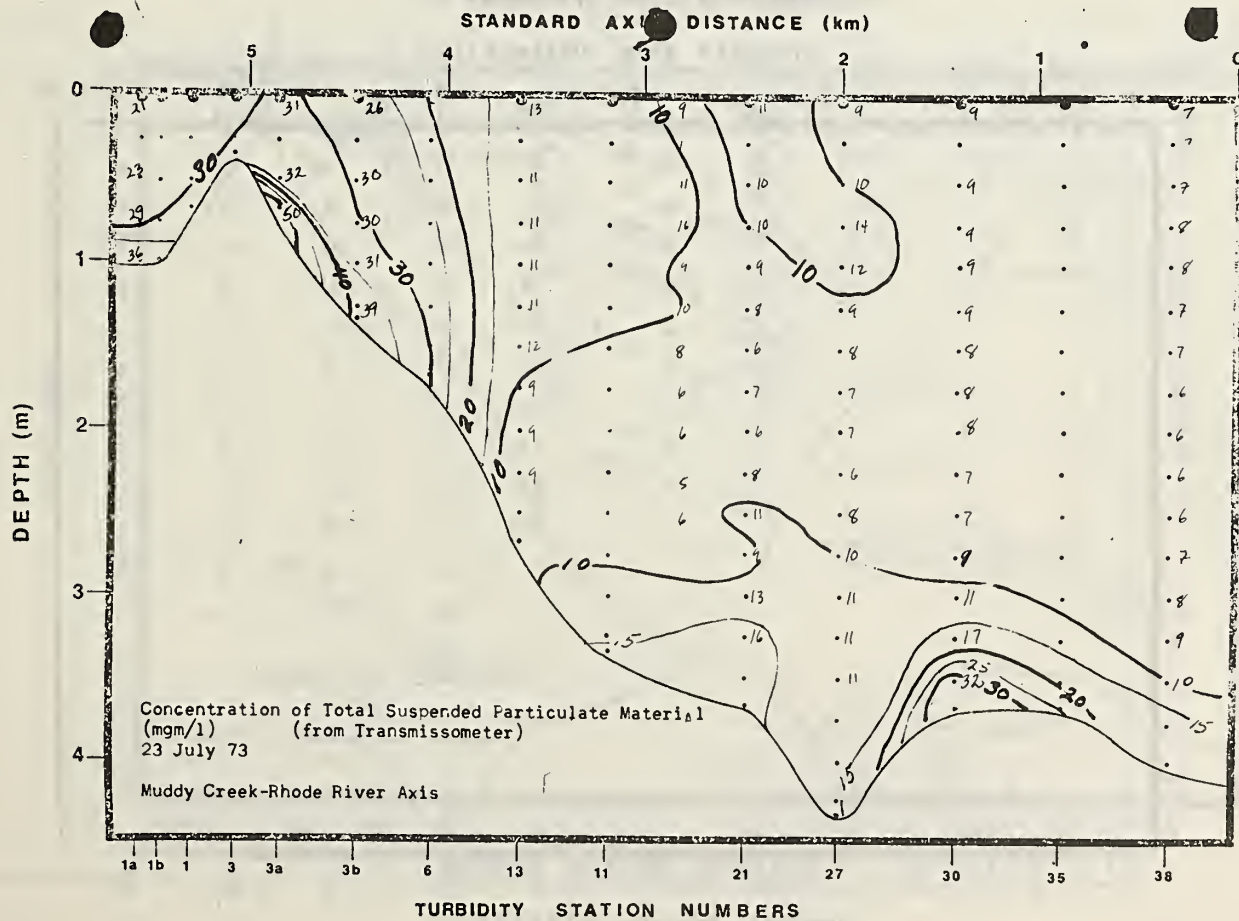


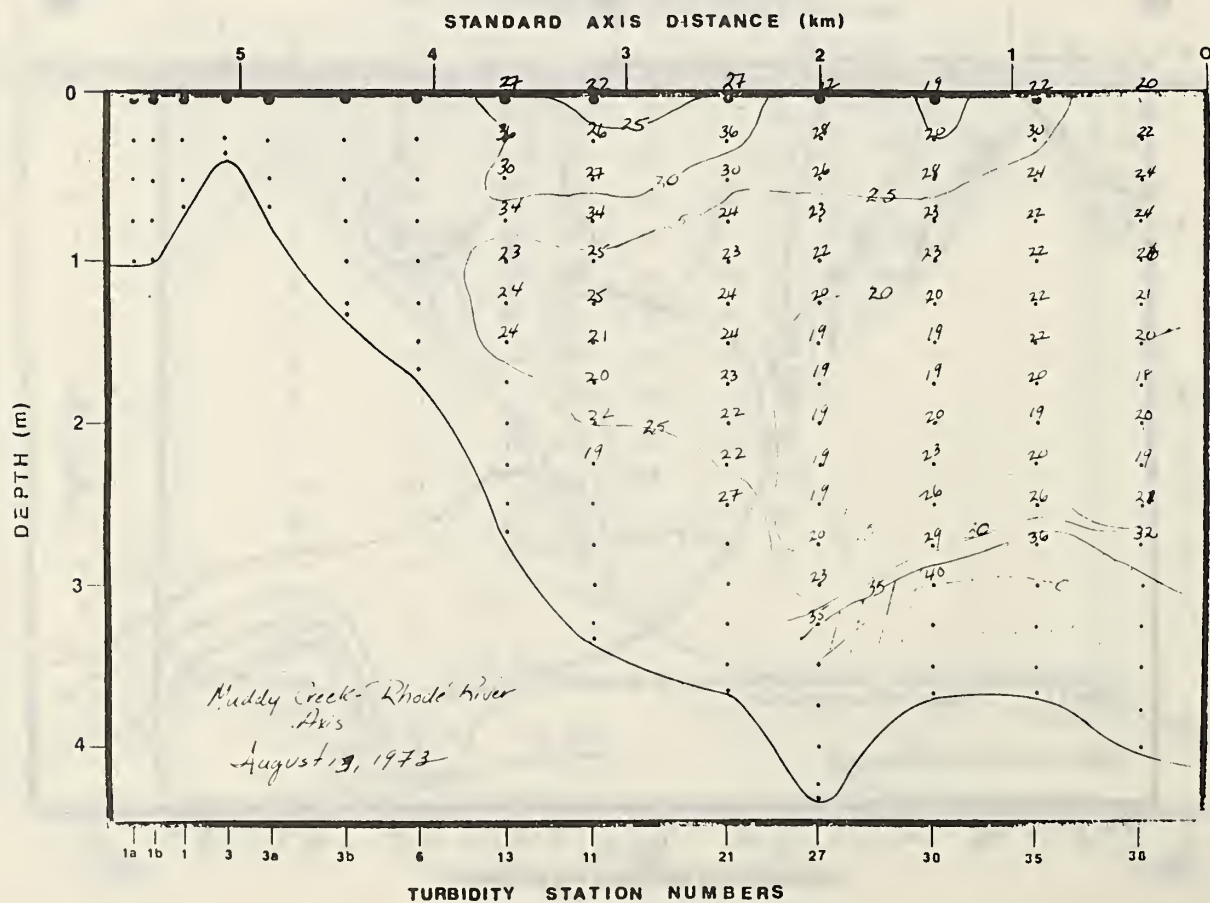
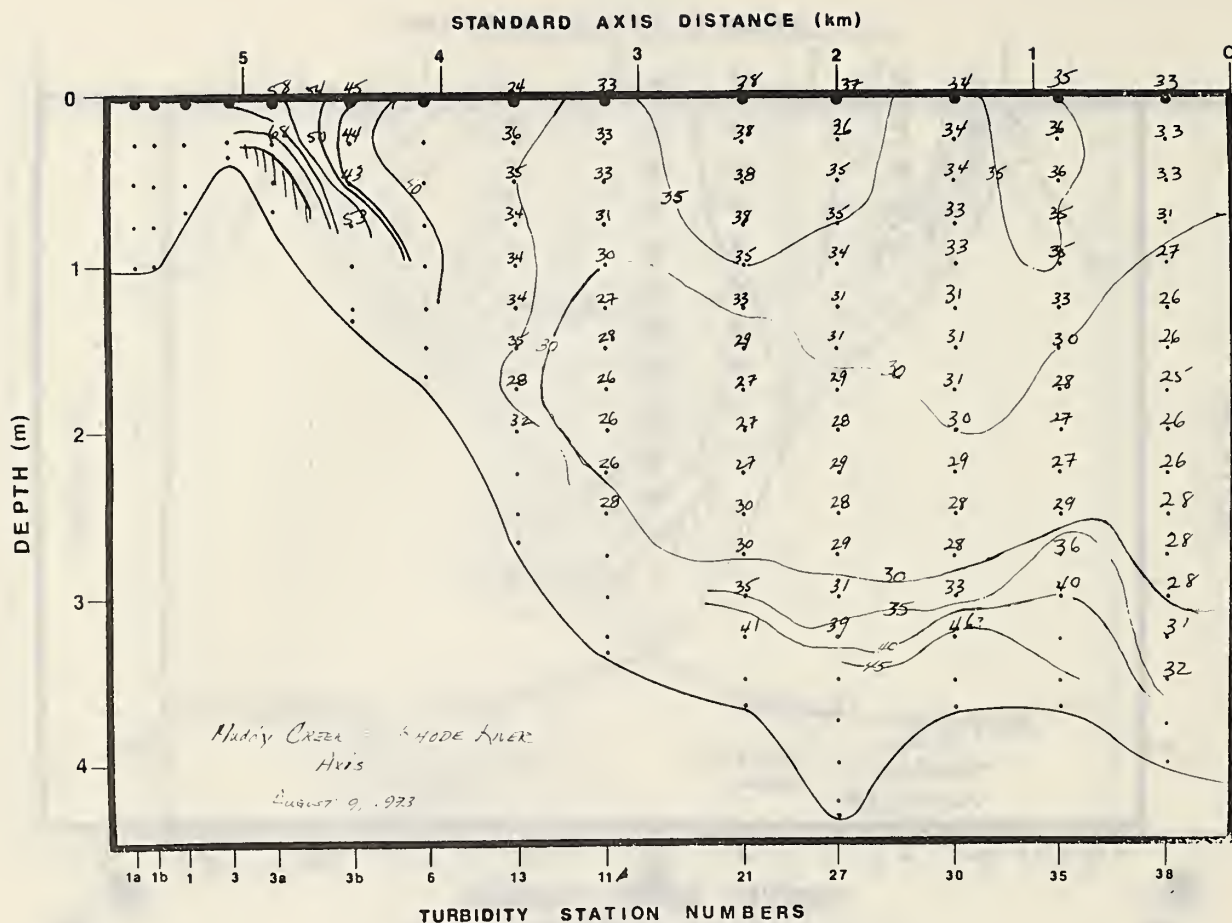




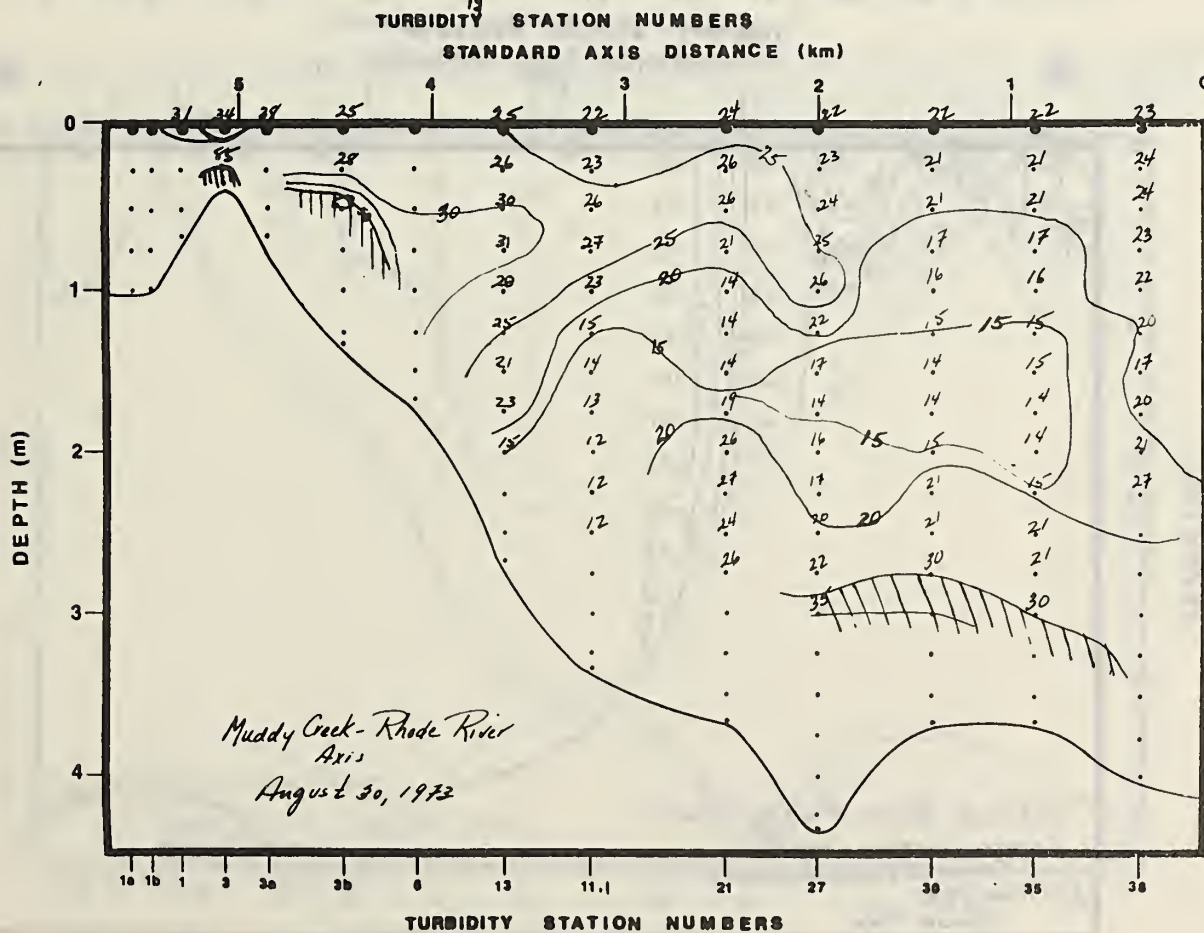
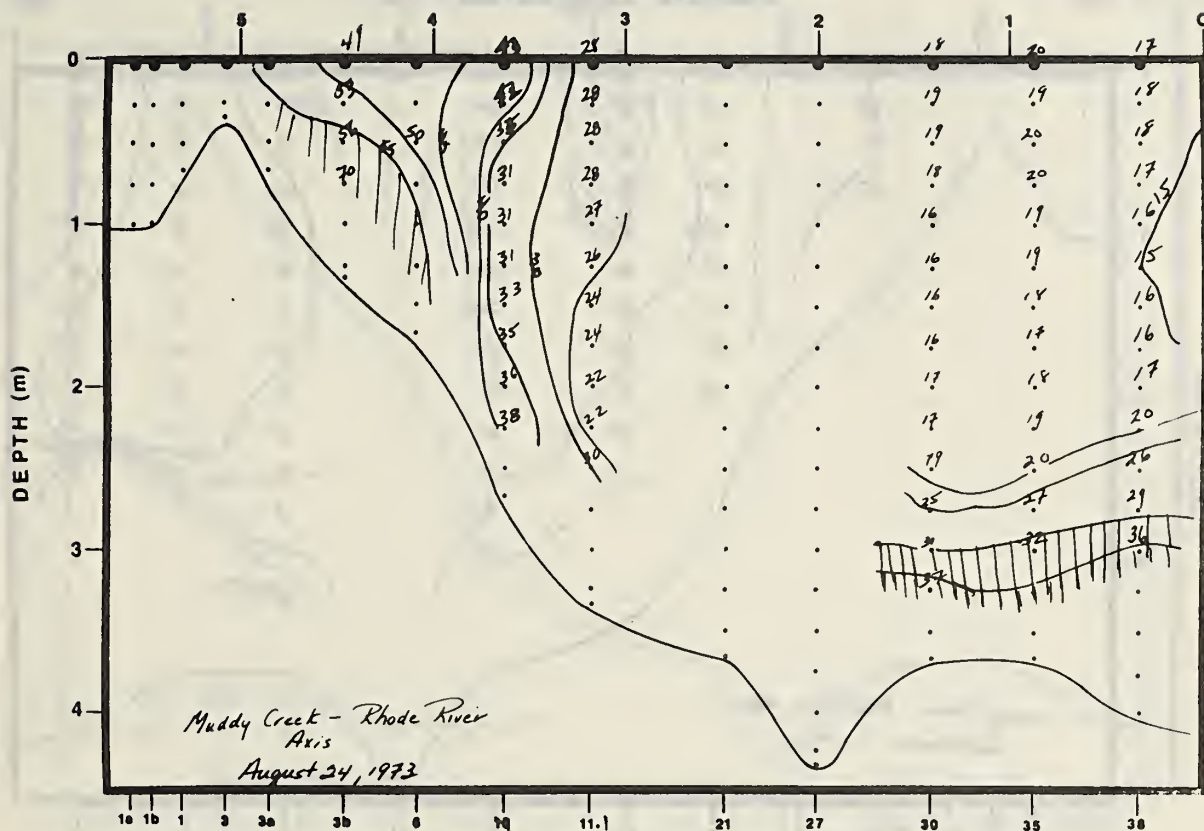


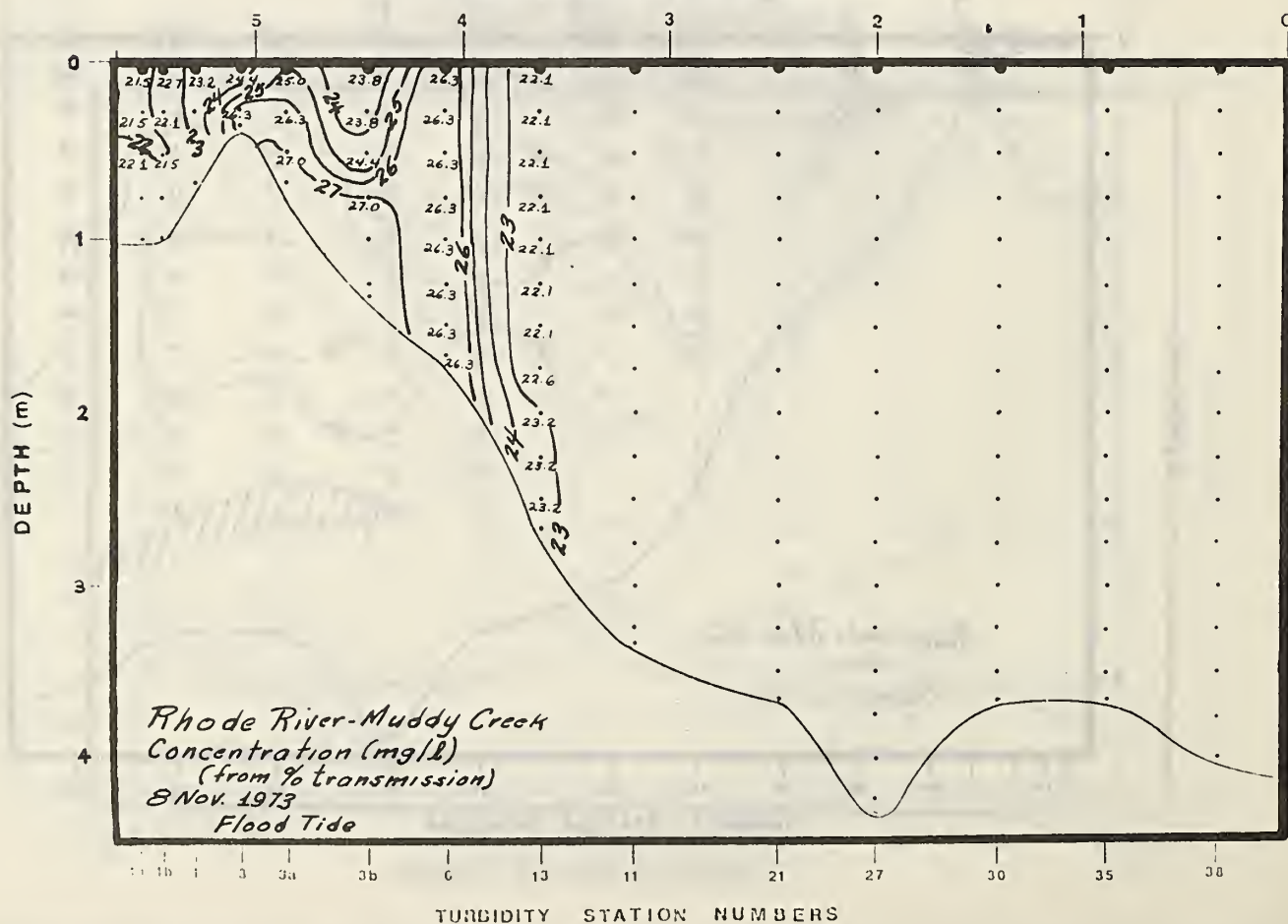
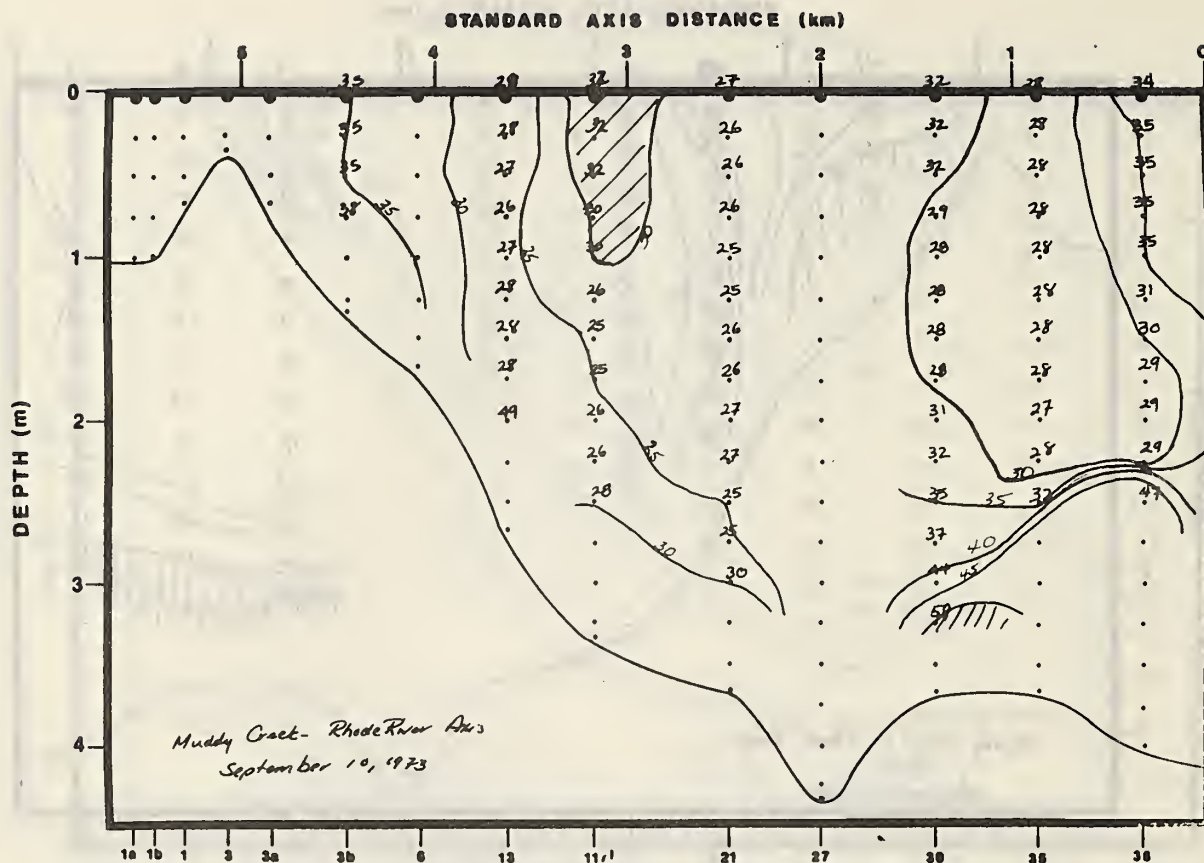


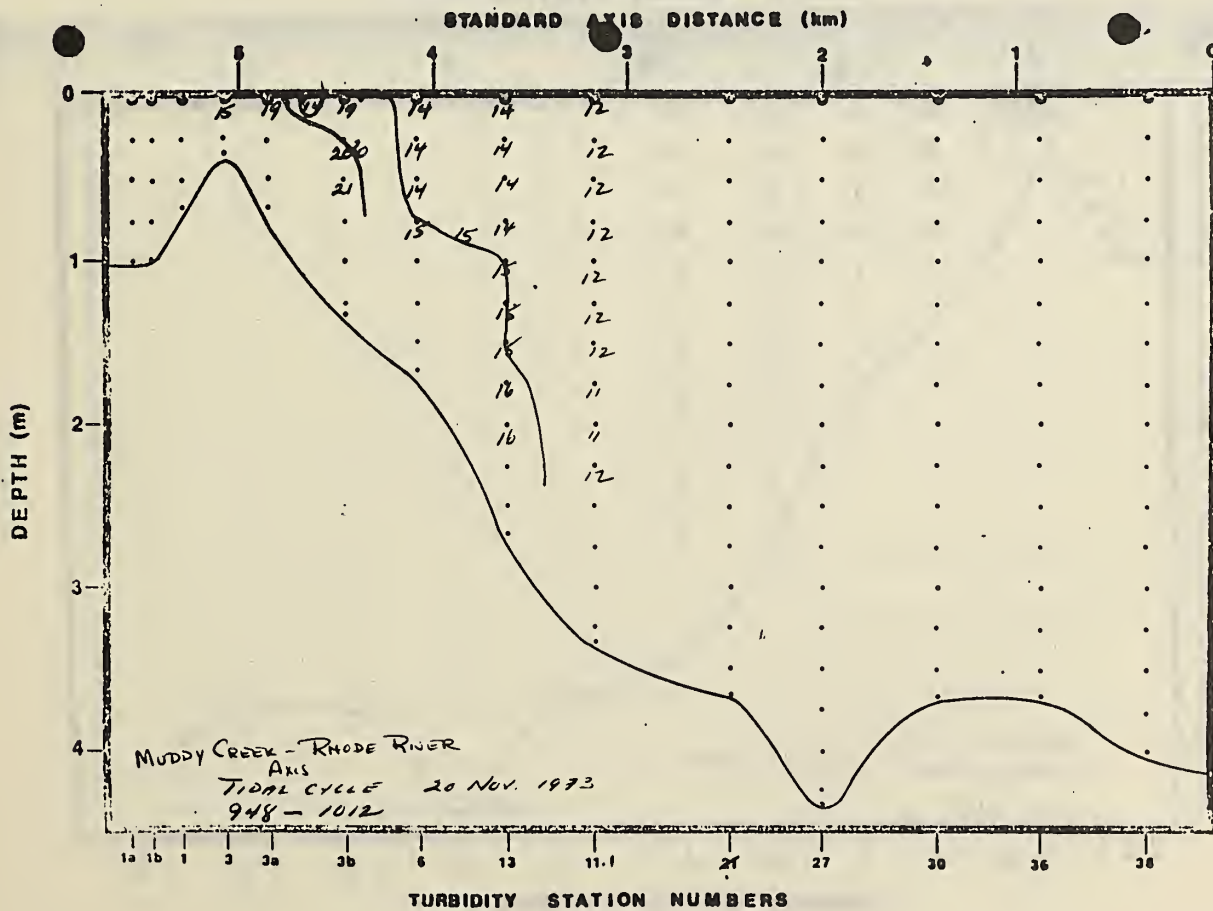
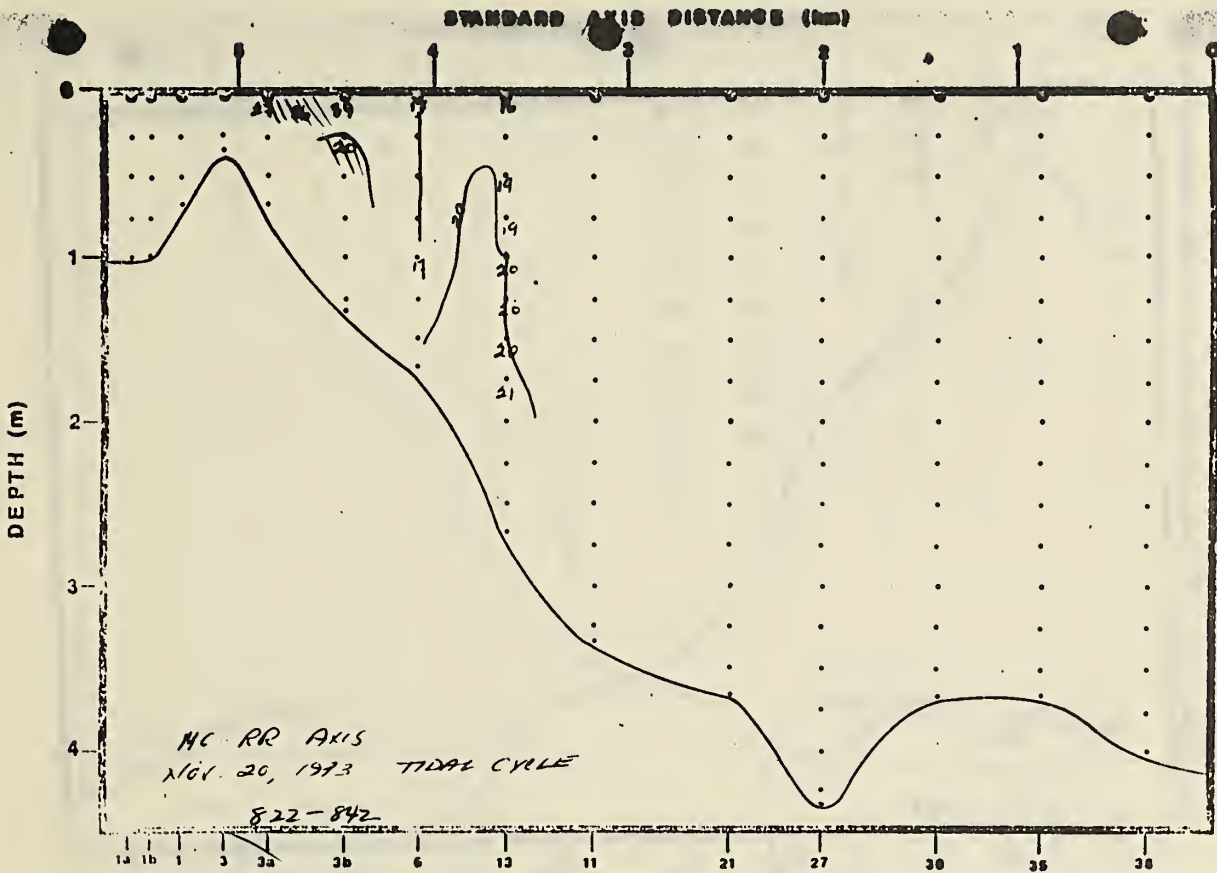




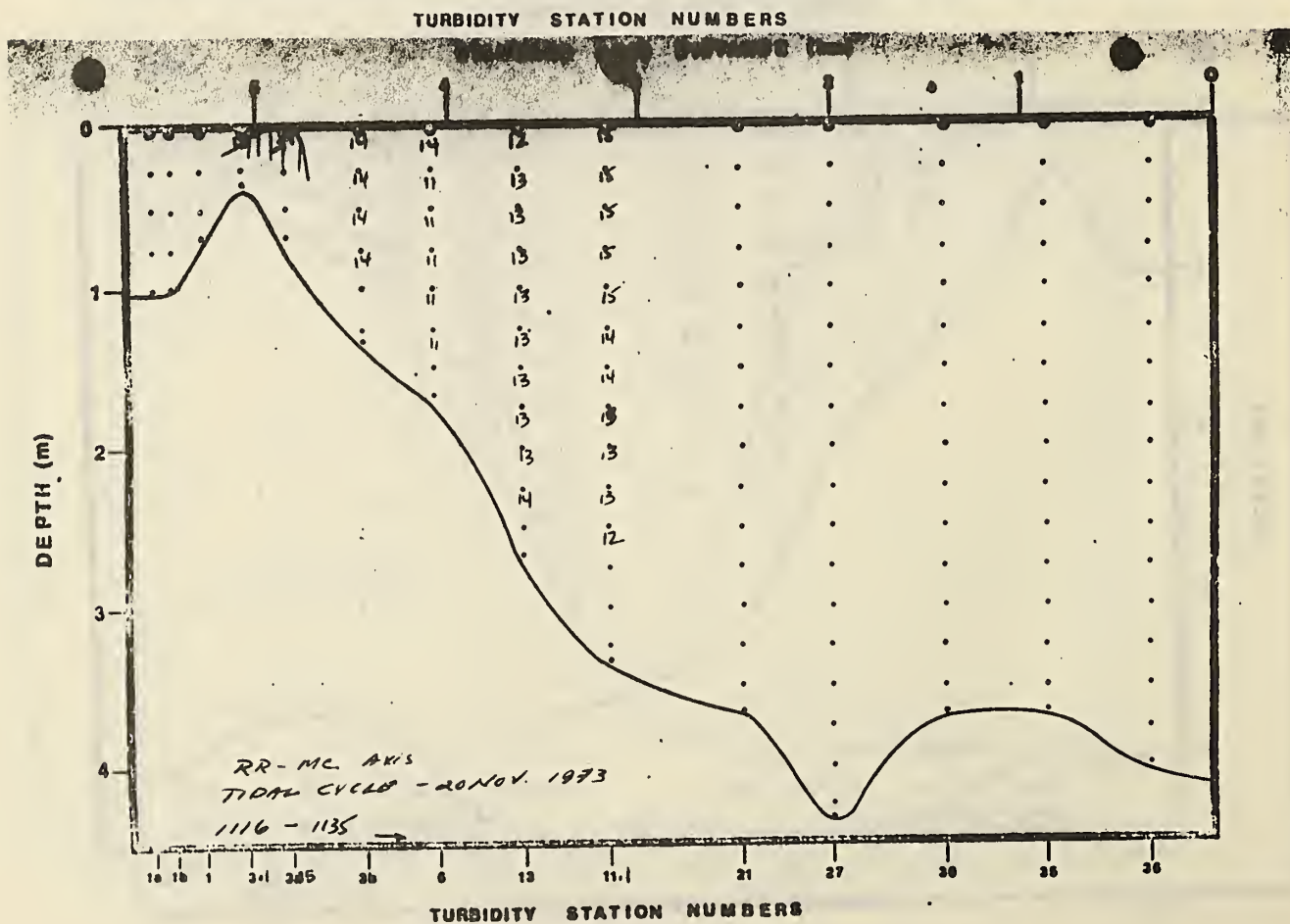
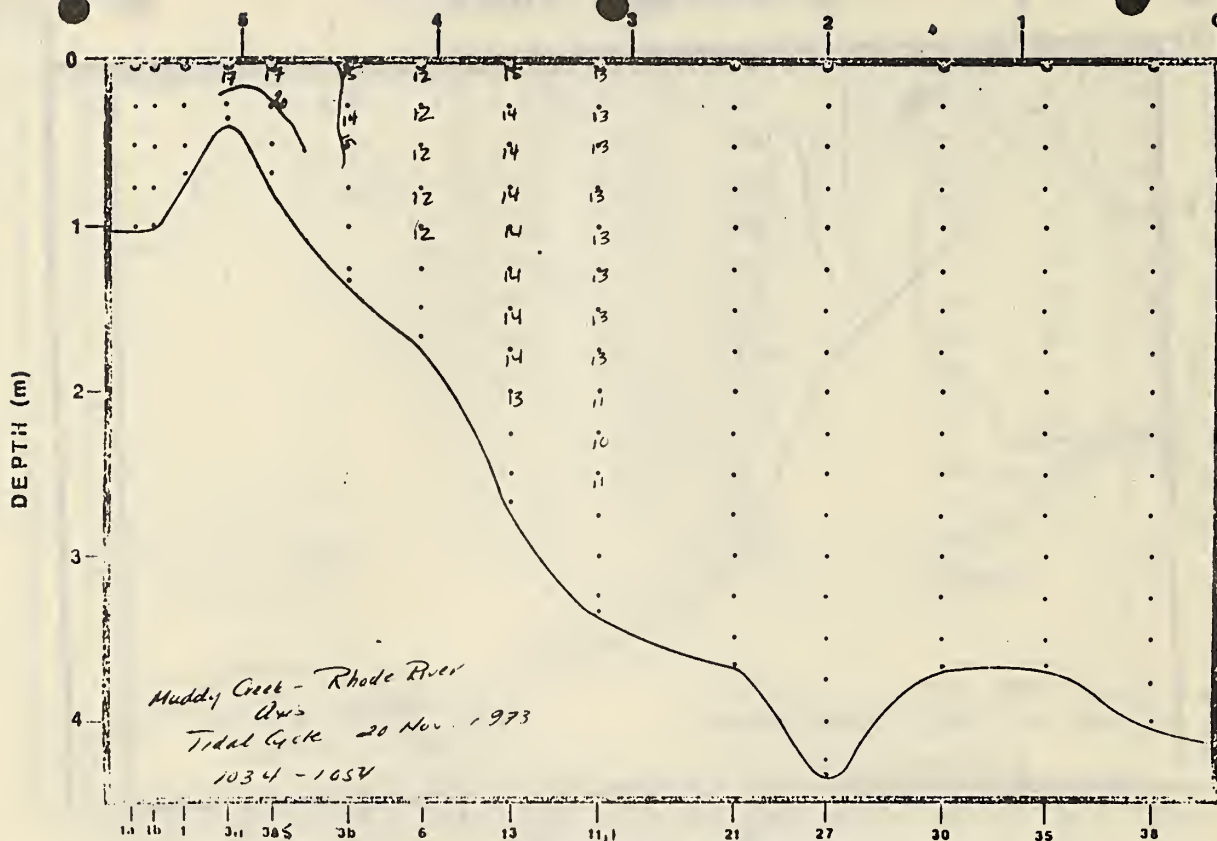
STANDARD AXIS DISTANCE (km)

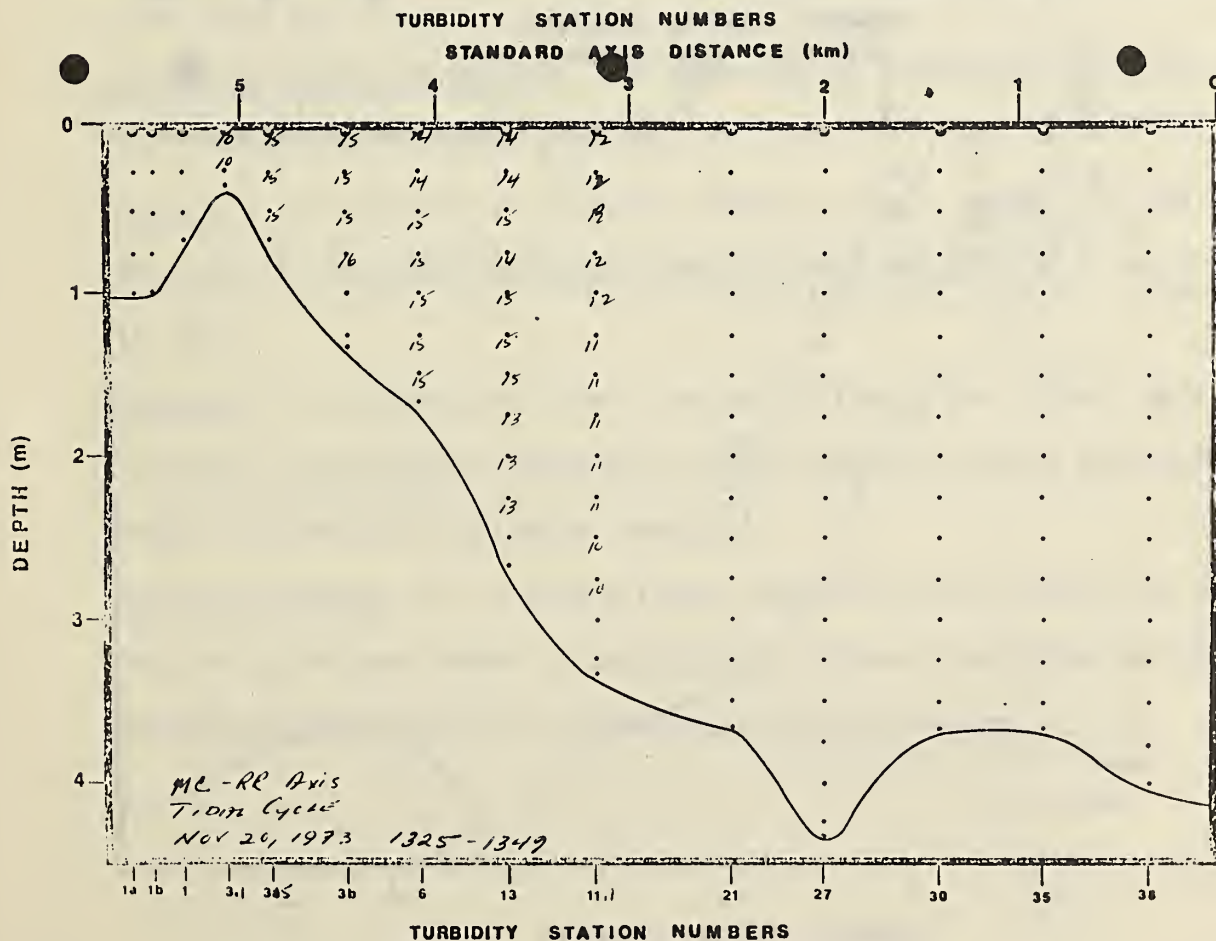
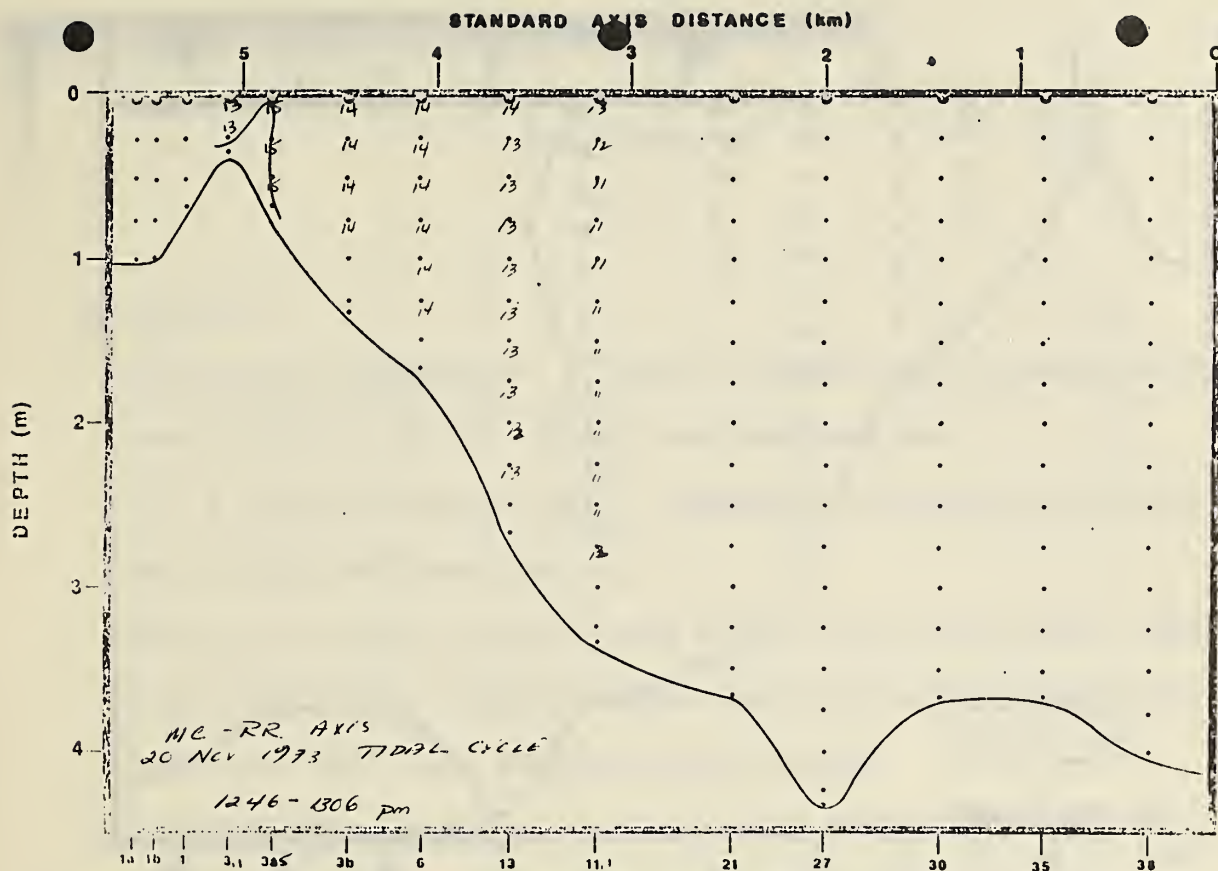


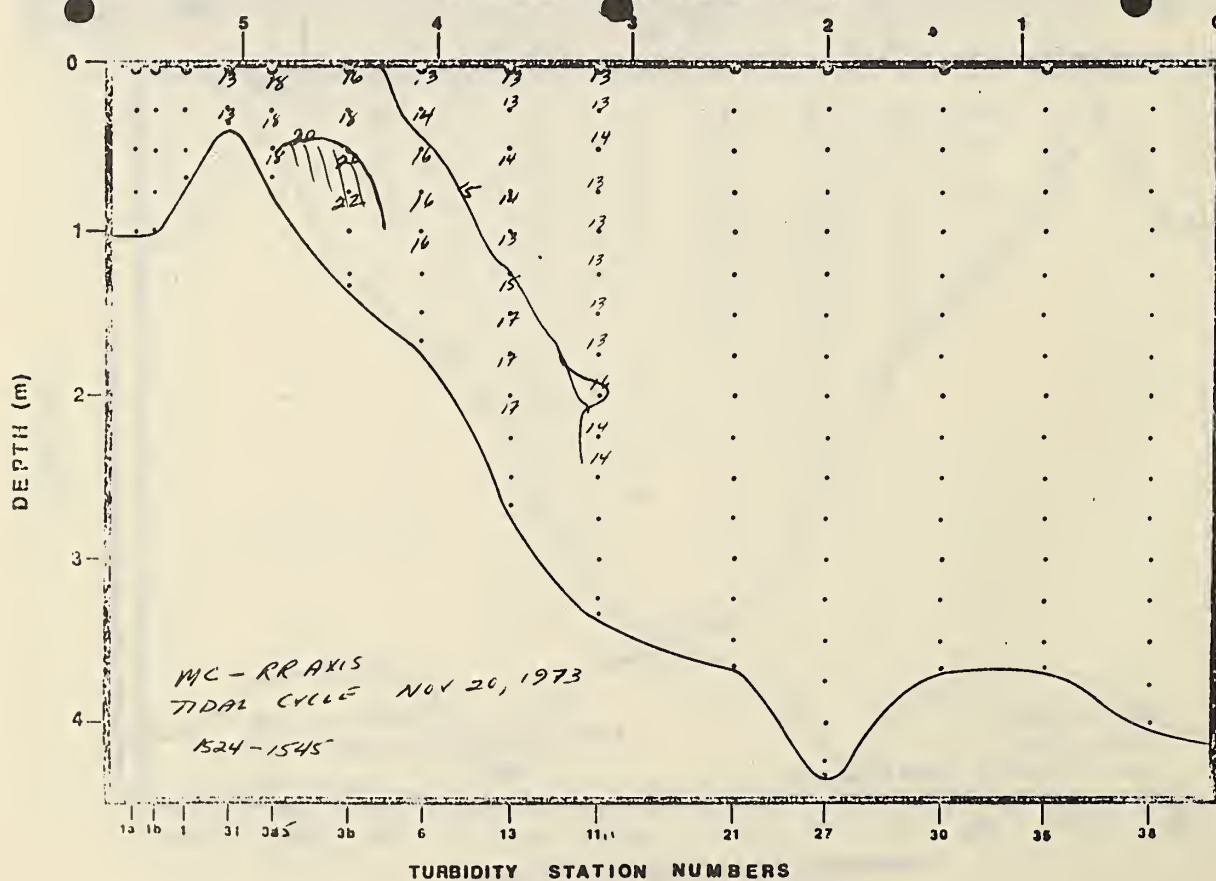
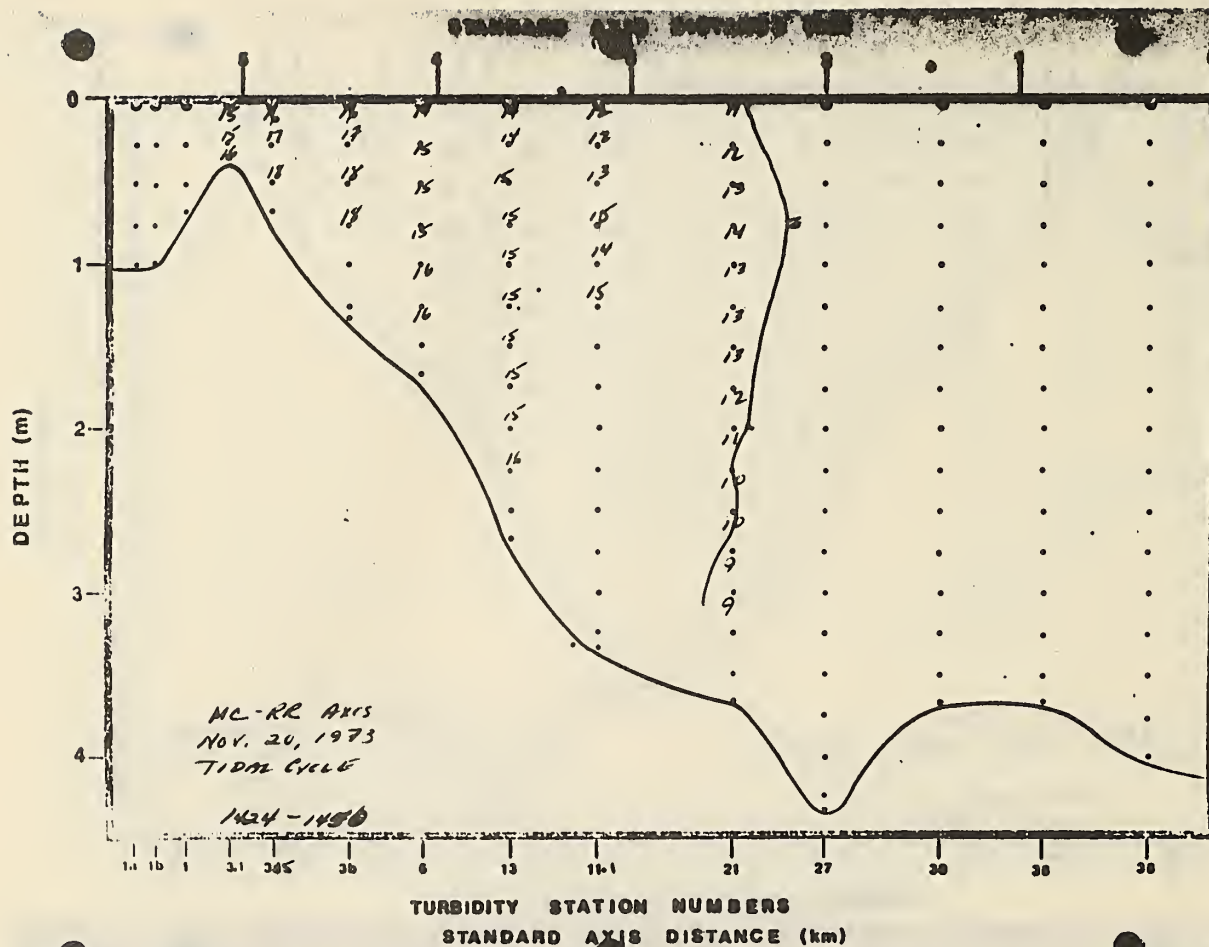




STANDARD AXIS DISTANCE (km)







Water Chemistry

1973

Technique:

Salinity and Temperature - A beckman conductivity salinometer which had been calibrated against standard sea water was used.

pH - A portable Photovolt meter, hydrogenion electrode and calomel reference electrode were used.

Samples for chemical analysis were all filtered through Reeve angel 984H glass fiber filters which had been rinsed with deionized water and were frozen at - 20°C until analyses were preformed.

Dissolved Orthophosphate - As described by Murphy and Riley (1962), Anal. Chem. Acta 27; 31.

Dissolved Organic Phosphorus - As described by Armstrong, Williams and Strickland (1966), Nature 211; 481.

Ammonia - As described by Solorzano (1969), Limnol. Ocean. 14, 799.

Nitrite - As described by Benshneider and Robinson (1952), J. Mar. Res. 11; 87.

Nitrate - As described by Morris and Riley (1963), Anal, Chem. Acta 29; 272.

Principal Investigator: Howard H. Seliger, McCollum-Pratt Instituté-Johns Hopkins University, Baltimore, Maryland.

Research Funding: U. S. Atomic Energy Commission and Program for Research Applied to National Needs of the National Science Foundation and the Smithsonian Institution's Environmental Science Program.

Table Water Chemistry Data

Day of Year 1973	Station	pH	Salinity (p.p. thousand)	Temperature °C	ug Atoms/liter					Dissolved Organic - P
					NH4	NO2	NO3	Diss. PO4		
10	RR Km 2.3	7.9	4.50	1.52	6.37	0.60	29.20	0.21	1.51	
10	RR Km 3.9	7.5	4.08	1.37	5.07	0.64	33.68	0.85	1.15	
61	RR Km 2.3	6.9	7.17	5.43	4.62	-	-	-	-	
75	RR Km 2.3	6.9	6.92	12.73	3.72	0.509	36.40	0.39	1.59	
80	RR Km 2.3	6.9	7.94	6.76	8.40	0.55	38.90	0.28	3.34	
87	RR Km 2.3	6.8	7.45	9.21	7.80	0.67	35.1	0.23	1.49	
100	RR Km 2.3	7.1	7.17	11.02	7.10	0.92	34.5	0.21	1.94	
115	RR Km 2.3	7.1	6.55	15.76	2.80	0.53	28.9	0.20	1.86	
122	RR Km 3.9	6.9	5.52	18.54	0.85	0.05	6.06	0.34	1.09	
131	RR Km 2.3	9.1	5.95	20.48	1.20	0.26	9.70	0.34	1.50	
138	RR Km 2.3	8.7	6.49	17.15	1.50	0.29	9.60	0.46	2.00	
150	RR Km 2.3	8.2	5.96	22.7	1.70	0.14	2.80	0.63	-	
157	RR Km 2.3	8.0	6.44	26.7	1.20	0.17	7.00	0.34	-	

Table (Continued)

Day of Year 1973	Station	pH	Salinity (p.p. thousand)	Temperature °C	NH ₄	ug Atoms/liter				Dissolved Organic - P
						NH ₄	N02	N03	Diss. P04	
164	Transect 1A	7.9	6.08	29.5	2.1	0.14	1.1	3.7	1.2	
171	Transect 1A	7.8	5.94	23.4	1.2	0.14	0.024	1.43	-	
190	RR Km 3.9	7.6	6.00	25.2	-	-	-	-	-	
197	RR Km 3.9	8.4	6.20	28.0	0.2	0.15	1.6	1.20	-	
204	RR Km 3.9	8.4	6.70	28.1	0.2	0.2	1.8	1.77	-	
215	Transect 1A	6.9	7.40	28.0	-	-	-	3.91	2.71	
215	Transect 4A	6.7	7.10	28.39	-	-	-	-	-	
222	Transect 1A	7.5	7.82	28.96	1.3	-	5.4	0.94	1.6	
222	Transect 4A	7.2	7.10	29.3	1.3	0.2	1.6	1.62	2.36	
248	Transect 1A	7.5	10.00	29.98	-	-	-	1.48	2.0	
248	Transect 4A	7.6	9.58	29.92	-	-	-	4.1	2.44	
262	Transect 1A	7.6	11.99	22.26	2.1	0.0	1.2	0.29	-	
262	Transect 4A	7.1	9.85	21.7	1.7	0.2	0.8	2.59	-	

Table (Continued)

Day of Year 1973	Station	pH	Salinity (p.p. thousand)	Temperature °C	NH ₄	µg Atoms/liter			Diss. PO ₄	Dissolved Organic - P
						NH ₄	NO ₂	NO ₃		
284	RR Km 2.3	6.7	12.2	21.1	2.9	2.9	3.0	4.2	1.65	-
299	RR Km 3.9	8.0	10.9	16.0	-	-	-	-	-	-
322	RR Km 3.9	7.9	12.5	8.6	-	-	-	-	-	-
330	Transect 1A	8.4	12.5	12.0	1.81	1.81	0.37	7.6	1.38	-
330	Transect 4A	-	-	-	4.65	4.65	0.16	0.63	0.96	-
340	Transect 1A	8.2	12.7	9.38	4.25	4.25	0.23	7.63	1.1	-
340	Transect 4A	-	-	-	3.47	3.47	0.05	0.11	1.27	-

Weather Station Data (map 2)

% Relative Humidity and Air Temperature - Measured using a Hygrothermograph - Belfort Instrument Company.

Barometric Pressure - Measured using an aneroid type barometer. Microbargraph - Belfort Instrument Company.

Rainfall - Measured using a weighing rain gauge - Belfort Instrument Company

Evaporation - Measurements are taken of the amount of water evaporating from an open pan.

Principal Investigator: Daniel Higman, Smithsonian Institution.

Research Funding: Research funded by Smithsonian Institution and U. S. Geological Survey.

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
1	97	46	18.3	0.6	763	760
2	96	44	5.5	-5.5	772	764
3	100	58	1.1	-7.7	775	766
4	100	70	6.0	0.0	766	758
5	80	61	5.5	0.0	761	759
6	70	54	2.8	-6.1	769	761
7	60	48	-4.4	-8.8	773	769
8	60	52	-7.2	-8.8	772	768
9	91	47	-2.7	-11.6	769	767
10	92	44	-0.5	-12.7	769	765
11	97	36	2.2	-11.1	765	759
12	96	40	-1.1	-10.5	770	762
13	100	55	0.0	-11.1	773	767

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
14	100	54	3.3	-10.0	767	759
15	100	56	5.5	-5.0	766	758
16	109	44	10.5	-7.7	770	766
17	100	35	23.8	-6.1	768	766
18	98	54	12.2	-5	767	762
19	98	66	12.2	-2.2	762	750
20	72	52	6.0	-2.7	764	752
21	94	42	4.9	-8.3	769	764
22	96	69	11.1	-2.7	768	751
23	90	48	11.6	0.5	757	751
24	92	44	5.5	-4.4	763	757
25	100	41	11.1	-7.7	766	762
26	98	50	12.2	-8.8	765	762
27	98	94	5.5	1.1	762	754

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
28	98	84	6.6	1.1	758	746
29	96	44	5.5	-5.5	763	744
30	93	42	1.1	-11.1	768	763
31	96	47	4.4	-9.4	774	766
32	98	77	4.4	-2.2	776	767
33	98	50	13.8	4.4	767	747
34	97	56	10.5	0.5	-	-
35	97	44	12.2	-3.3	-	-
36	97	50	11.6	-0.5	-	-
37	97	68	7.1	2.7	-	-
38	98	74	7.1	-1.1	-	-
39	99	64	5.5	-1.6	-	-
40	86	44	0.5	-5.5	-	-
41	65	54	-2.2	-5	768	765

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
42	72	37	-1.6	-9.4	770	766
43	94	32	2.2	-12.7	772	769
44	95	36	4.4	-11.6	771	769
45	98	77	6.0	0.5	769	755
46	98	68	6.6	1.7	756	753
47	96	54	5.5	-8.8	763	753
48	63	36	-3.3	-13.3	770	763
49	94	38	0.5	-13.3	772	768
50	96	34	6.6	-10.5	768	767
51	97	42	10.0	-5.5	767	763
52	98	50	8.8	-1.1	765	755
53	81	48	3.8	-3.8	756	755
54	96	56	6.6	-5.0	760	755
55	96	43	5.5	-5.5	770	760

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
56	98	49	4.9	-7.2	774	770
57	96	56	14.9	0.0	770	767
58	78	52	2.2	-1.6	769	767
59	100	45	4.9	-2.2	772	769
60	101	46	10.0	-7.2	773	770
61	96	51	14.9	-2.7	771	769
62	100	90	10.5	4.9	770	765
63	97	90	10.0	6.6	765	764
64	97	82	10.0	6.0	770	765
65	96	94	6.0	4.4	772	770
66	96	94	8.2	4.9	770	765
67	97	84	13.3	7.7	767	765
68	98	46	12.2	3.3	770	767
69	96	54	12.7	4.9	769	755

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
70	96	92	9.3	6.0	769	755
71	96	44	22.2	8.3	761	755
72	91	53	14.9	4.4	765	761
73	97	56	16.6	3.8	761	759
74	96	64	17.2	7.1	760	754
75	98	54	21.1	12.2	757	749
76	96	41	21.1	4.4	749	734
77	84	48	6.0	0.5	753	743
78	69	46	8.8	0.5	759	756
79	91	42	12.2	0.5	760	757
80	96	59	5.5	1.1	760	757
81	64	54	5.5	-0.5	764	759
82	70	36	11.6	-0.5	767	764
83	94	38	12.2	-4.4	768	763
84	96	44	12.2	-2.2	763	761

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
85	96	79	13.3	7.7	761	745
86	92	45	14.9	2.7	765	749
87	98	44	12.2	-1.6	770	765
88	100	60	12.2	-1.1	769	766
89	98	86	12.2	5.5	766	764
90	98	94	11.6	7.1	766	759
91	97	76	17.7	10.0	759	747
92	86	50	17.2	6.6	753	747
93	93	48	16.6	5.5	754	753
94	97	58	16.6	4.9	754	742
95	66	50	10.0	4.9	760	747
96	93	36	18.3	-0.5	763	757
97	96	44	16.6	2.2	759	753
98	96	74	8.2	0.5	760	747

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
99	99	49	12.7	-1.6	764	753
100	97	44	11.6	3.3	753	748
101	70	44	13.3	0.0	761	755
102	100	45	7.1	-2.7	762	758
103	98	38	9.3	-2.7	767	762
104	97	44	10.0	-3.8	772	767
105	100	42	15.5	-3.3	774	772
106	98	37	20	0.0	773	767
107	97	53	21.6	8.2	768	767
108	94	49	23.3	9.3	768	767
109	100	58	23.3	9.9	767	765
110	98	56	22.7	9.3	772	767
111	98	64	19.4	8.8	772	766
112	100	42	29.4	11.6	766	758

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
113	95	49	28.3	13.8	759	753
114	102	38	22.2	8.8	758	755
115	100	56	18.8	9.3	759	755
116	100	85	12.2	9.3	756	754
117	100	85	12.7	8.2	755	742
118	98	51	12.2	7.5	758	744
119	96	37	17.7	3.8	763	758
120	98	50	16.1	2.7	767	763
121	100	82	21.6	14.9	767	765
122	96	48	28.3	13.3	763	762
123	100	66	22.2	12.2	762	756
124	101	50	14.9	4.9	759	756
125	95	44	15.5	2.2	761	758
126	94	39	21.1	6.0	766	761

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
127	104	40	22.7	3.8	768	765
128	98	54	25.5	11.6	767	759
129	98	53	26.2	12.2	759	756
130	101	50	25.0	9.3	759	755
131	98	36	25.5	10.0	757	753
132	101	42	23.8	6.6	759	754
133	100	50	20	6.0	765	759
134	98	46	22.2	8.8	766	764
135	100	56	17.2	10.5	764	760
136	105	46	17.7	3.3	763	757
137	101	48	23.3	4.4	757	753
138	104	47	15.5	2.2	760	756
139	103	46	20.0	2.7	760	756
140	100	80	16.6	12.7	756	751

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
141	97	52	20.0	8.2	756	752
142	97	44	26.1	8.2	758	744
143	101	88	17.7	12.7	756	752
144	103	87	15.5	11.6	755	754
145	103	90	12.2	10.5	759	754
146	100	86	12.2	10.5	760	758
147	101	100	14.4	11.1	742	758
148	100	80	25.0	14.4	758	753
149	100	60	28.8	18.3	757	752
150	101	62	26.6	13.8	760	757
151	100	52	23.8	12.7	762	759
152	102	43	26.1	10.0	764	761
153	101	50	27.2	11.6	763	761
154	101	66	26.6	13.8	764	763

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
155	101	54	32.7	16.1	764	762
156	101	52	31.6	16.1	764	762
157	99	64	29.4	18.8	764	761
158	98	62	27.2	20.0	765	762
159	102	70	28.3	17.7	766	764
160	100	58	32.2	20.5	764	760
161	100	50	32.2	20.0	762	760
162	98	58	33.3	21.1	762	759
163	98	60	30.5	21.1	760	757
164	98	61	29.9	20.5	759	757
165	100	42	27.2	14.9	762	759
166	103	41	27.2	11.1	763	760
167	100	76	27.2	17.7	760	752
168	101	71	22.2	16.1	761	753

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
169	101	84	20.5	16.1	762	759
170	101	88	22.2	17.7	764	762
171	100	70	26.6	20.0	764	764
172	100	65	30.5	20.0	764	761
173	100	72	24.4	18.8	763	761
174	100	65	26.6	17.7	763	762
175	100	65	26.1	17.2	764	762
176	100	70	26.6	17.7	763	759
177	100	68	26.6	17.7	763	760
178	100	71	27.7	18.3	762	757
179	101	76	27.7	18.3	757	753
180	100	76	25.5	20.0	755	753
181	100	62	28.8	14.9	760	755
182	100	62	28.8	20.9	762	760
183	100	73	28.3	19.4	761	759

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
184	100	72	26.6	22.2	761	758
185	102	60	30.0	20.5	759	758
186	100	59	30.0	20.5	-	-
187	100	50	28.3	15.5	-	-
188	100	49	31.6	15.5	-	-
189	100	54	32.2	17.7	-	-
190	100	54	34.4	20.5	760	757
191	100	59	33.3	21.1	257	754
192	100	65	28.3	18.3	764	756
193	102	44	29.4	11.6	766	760
194	102	50	30.5	12.2	760	756
195	96	64	32.2	20.5	758	755
196	98	73	28.3	20.5	758	755
197	99	54	28.3	20.0	761	753

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
198	100	58	27.2	18.3	764	761
199	102	56	28.8	14.9	765	763
200	100	43	31.1	16.6	764	761
201	99	60	31.6	20.5	761	757
202	99	70	28.8	21.1	760	758
203	100	84	22.2	19.4	764	758
204	100	51	29.4	18.3	768	764
205	100	44	26.6	14.4	769	765
206	103	58	30.5	20.5	765	760
207	94	66	33.8	22.7	760	756
208	95	54	31.1	20.0	757	755
209	102	56	29.4	18.3	758	755
210	101	58	30.0	15.5	758	756
211	102	54	31.1	16.1	761	758

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
212	104	58	26.6	15.5	761	760
213	102	72	29.4	21.6	761	758
214	102	73	29.4	21.6	757	754
215	102	79	25.0	20.5	759	754
216	102	54	30.5	18.8	763	760
217	102	51	29.4	16.1	764	762
218	103	50	30.0	14.9	763	762
219	100	66	30.0	18.3	763	762
220	102	61	30.5	17.7	763	761
221	100	70	31.6	19.4	761	758
222	100	59	32.7	20.0	759	756
223	100	54	32.2	20.5	759	757
224	100	50	34.4	17.7	760	756
225	101	54	30.5	20.5	759	757
226	101	66	30.0	21.6	757	755

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
227	101	66	28.8	18.8	758	755
228	101	64	28.3	20.5	763	758
229	101	92	22.7	18.3	764	762
230	101	60	26.6	16.6	768	760
231	101	71	27.2	15.5	761	759
232	102	80	23.8	20.0	759	757
233	101	75	25.0	18.3	758	756
234	101	62	25.0	17.2	760	758
235	101	48	25.0	11.6	764	760
236	101	60	26.6	11.6	764	763
237	101	69	26.6	16.6	764	763
238	101	68	29.4	16.6	764	762
239	101	60	32.7	20.0	764	760
240	101	59	35.0	22.7	761	759

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
241	101	50	35.0	22.2	763	761
242	101	54	35.5	20.5	763	762
243	101	59	34.4	21.6	765	763
244	101	61	32.7	20.0	766	764
245	101	60	33.3	21.6	766	762
246	101	61	32.2	19.4	763	760
247	101	67	31.6	18.3	762	760
248	101	67	31.1	18.3	762	759
249	101	60	31.6	21.6	760	757
250	102	45	28.8	18.3	768	760
251	102	48	27.2	12.7	763	760
252	101	54	25.0	14.4	761	759
253	105	48	22.7	9.4	761	756
254	101	44	28.8	10.5	756	749

(continued) Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
255	102	54	22.2	14.9	756	753
256	94	60	25.5	14.9	764	760
257	101	84	22.2	17.2	763	750
258	96	68	23.8	14.9	759	751
259	101	46	27.2	12.2	761	759
260	100	61	20.5	14.9	765	761
261	99	54	25.0	12.2	762	756
262	100	44	20.0	7.1	763	760
263	101	46	23.8	6.6	763	760
264	100	58	14.9	10.5	768	764
265	94	59	26.1	14.9	768	763
266	96	57	28.8	16.1	763	761
267	100	43	28.8	12.2	765	762
268	100	76	20.0	15.5	770	765

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
269	100	54	23.3	13.3	772	770
270	101	60	26.6	12.2	771	764
271	100	62	26.6	16.1	764	759
272	100	57	29.4	16.6	759	755
273	100	56	21.6	13.3	766	758
274	100	72	21.1	10.0	769	766
275	100	59	21.1	15.5	768	762
276	98	54	26.6	14.9	762	760
277	100	62	26.6	13.8	760	759
278	100	38	26.1	10.0	766	759
279	100	40	21.6	6.6	769	766
280	101	60	21.1	4.4	767	764
281	100	65	21.1	12.7	764	763
282	100	82	21.6	15.5	765	764

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature °C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
283	96	62	22.7	12.2	765	763
284	100	58	18.8	10.5	769	765
285	101	60	20.0	6.6	768	766
286	100	48	23.3	8.8	766	759
287	100	36	22.7	6.0	761	759
288	101	43	25.0	5.5	757	754
289	100	38	18.8	9.3	759	754
290	101	50	13.3	0.5	764	759
291	102	40	18.3	-0.5	764	758
292	102	44	14.9	1.1	764	762
293	103	48	22.7	4.9	762	758
294	104	52	16.1	2.2	767	762
295	102	53	17.2	0.0	768	766
296	104	62	18.3	1.1	766	762

Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
297	102	48	21.1	3.3	764	761
298	102	48	20.5	2.7	762	759
299	102	46	22.7	4.9	759	754
300	103	45	21.1	5.5	762	757
301	101	69	18.3	4.9	763	758
302	102	71	19.4	6.6	758	746
303	100	86	8.8	2.7	748	746
304	107	53	17.2	1.1	751	747
305	101	*	17.7	3.8	757	743
306	75	35	25.0	3.3	760	754
307	84	42	16.6	5.5	757	754
308	101	42	13.3	-1.1	762	757
309	102	70	5.5	2.2	762	759

* Hygrometer Damaged

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
310	100	42	7.1	2.2	765	761
311	101	42	7.1	-5.0	767	765
312	104	50	11.6	-3.3	765	759
313	101	44	7.7	-1.1	765	757
314	98	47	4.9	-5.0	772	765
315	101	50	6.0	-7.2	774	770
316	105	50	10.0	-3.8	770	765
317	92	65	21.6	2.7	765	760
318	103	45	22.2	4.4	760	759
319	102	48	25.5	5.5	758	748
320	92	53	19.4	3.3	761	748
321	102	48	7.1	-4.4	767	761
322	106	50	10.5	-6.1	767	758

(continued)

Weather Station Data

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
323	102	62	14.9	3.3	765	758
324	78	54	8.8	1.6	770	765
325	99	68	12.2	7.7	770	763
326	98	45	17.7	2.2	766	763
327	99	55	24.4	-1.1	766	762
328	99	76	17.7	7.7	762	753
329	75	50	24.4	13.8	756	747
330	96	66	13.8	7.1	764	757
331	98	96	14.4	10.5	763	755
332	98	54	22.2	10.0	755	743
333	63	42	10.0	0.0	765	750
334	94	36	16.1	-3.3	765	759
335	94	42	9.3	-2.2	773	763
336	100	49	4.9	-5.5	775	770

(continued)

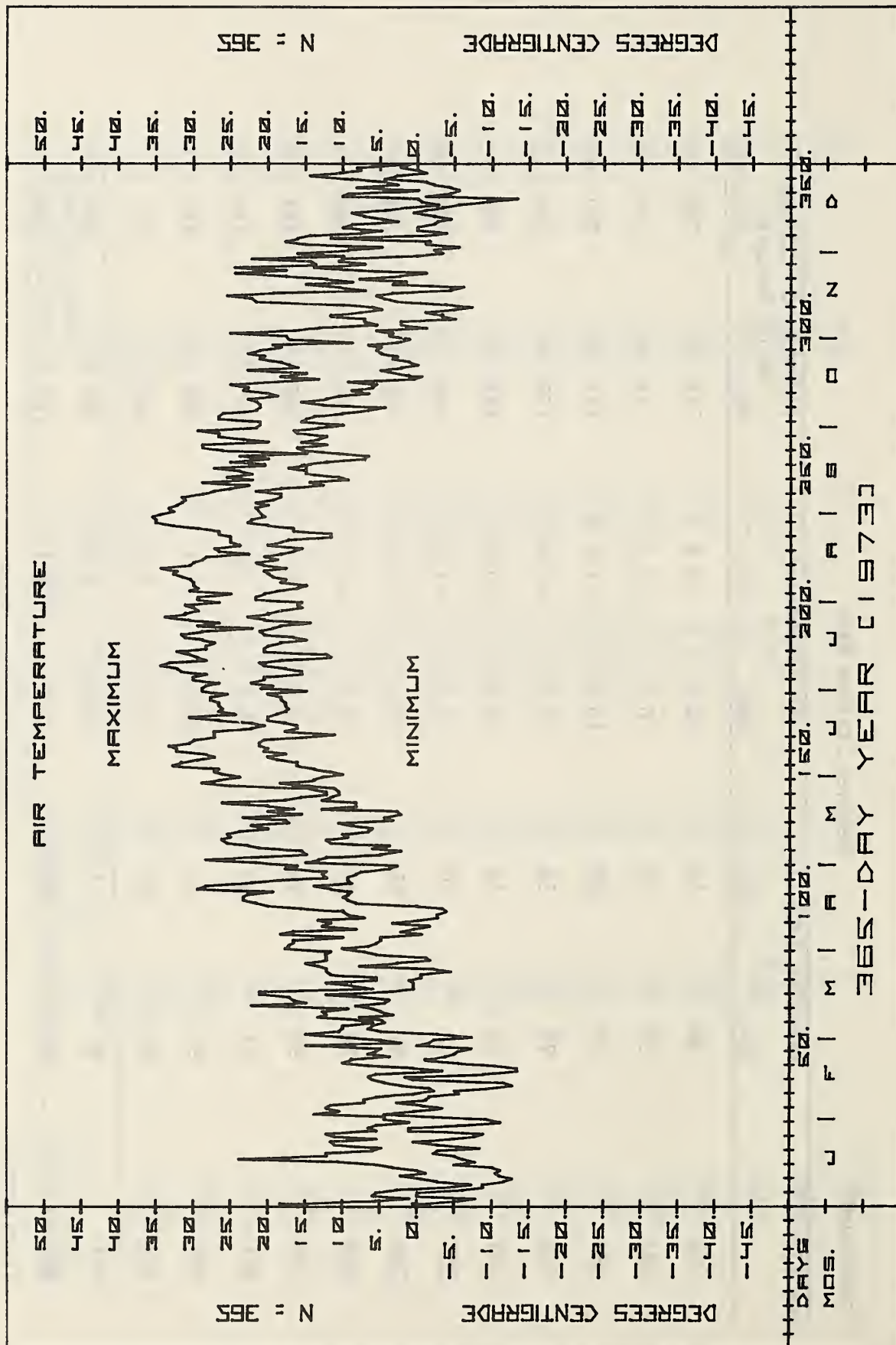
Weather Station Data

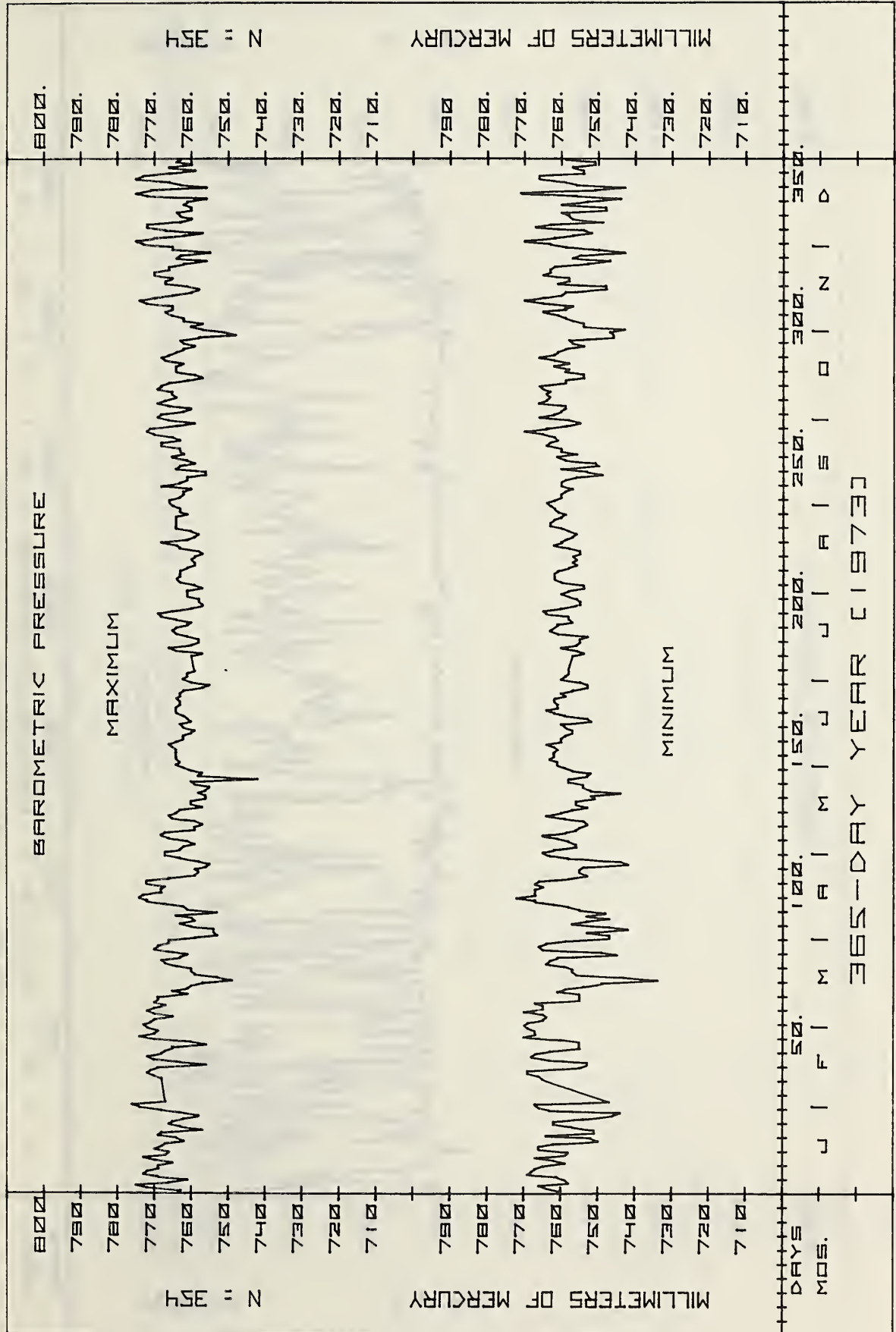
Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
337	101	46	14.9	-1.1	770	762
338	100	58	17.7	-1.6	762	757
339	99	85	16.6	11.6	757	752
340	94	40	14.4	-1.1	767	754
341	100	50	7.7	-3.8	772	767
342	99	71	4.9	0.0	772	763
343	99	82	10.0	0.0	763	749
344	101	60	8.8	-2.2	760	757
345	93	52	2.7	-2.7	763	758
346	79	40	4.9	-4.4	764	760
347	96	64	7.1	-2.2	760	748
348	96	56	8.8	0.5	760	748
349	84	55	4.4	-1.1	762	760
350	96	72	1.6	-3.3	761	753
351	94	49	-2.7	-5.5	756	744

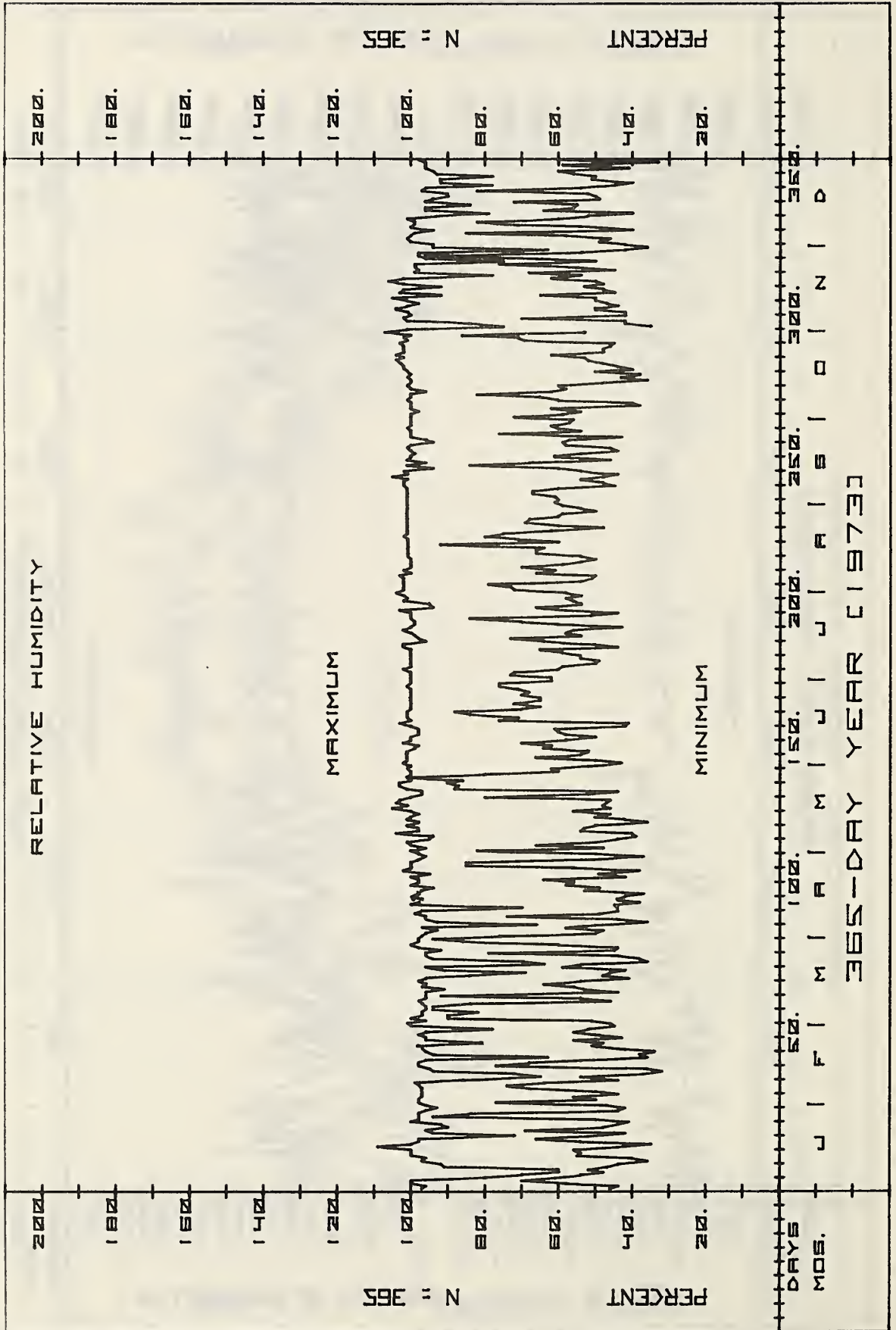
Weather Station Data

(continued)

Day of 1973	Relative Humidity %		Air Temperature ° C		Barometric Pressure mm of Mercury	
	Max.	Min.	Max.	Min.	Max.	Min.
352	90	50	-0.5	-9.4	772	756
353	90	52	0.0	-13.3	775	771
354	97	82	10.0	-1.1	771	751
355	96	54	9.3	-4.4	756	743
356	78	45	0.0	-5.5	763	756
357	92	40	8.2	-4.4	766	759
358	92	51	2.7	-2.2	775	766
359	78	50	4.4	-1.1	773	766
360	93	56	8.8	4.4	766	754
361	94	60	14.4	2.7	759	754
362	96	41	10.5	-1.1	766	757
363	96	59	7.7	0.0	760	751
364	96	33	8.2	2.2	764	751
365	98	60	2.2	1.1	763	759







Weather Station Data

Rainfall and Evaporation

Centimeters of Water

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
1	-	0	-	-	-	-
2	-	0	-	-	-	-
3	-	0	-	-	-	-
4	-	1.24	-	-	-	-
5	-	0	-	-	-	-
6	-	0	-	-	-	-
7	-	0	-	-	-	-
8	-	0	-	-	-	-
9	-	0	-	-	-	-
10	-	0	-	-	-	-
11	-	0	-	-	-	-
12	-	0	-	-	-	-
13	-	0	-	-	-	-
14	-	0	-	-	-	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
15	-	Trace	-	-	-	-
16	-	0	-	-	-	-
17	-	0	-	-	-	-
18	-	0	-	-	-	-
19	-	0.81	-	-	-	-
20	-	0.02	-	-	-	-
21	-	0	-	-	-	-
22	-	0.33	-	-	-	-
23	-	0	-	-	-	-
24	-	0	-	-	-	-
25	-	0	-	-	-	-
26	-	0	-	-	-	-

Weather Station Data
Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
27	-	0	-	-	-	-
28	0.30	0	2.08	0	0	-
29	2.84	4.82	4.06	0	0	-
30	0	0	0	0	0	-
31	0	0	0	0	0	-
32	0.15	0.10	0	0	0	-
33	4.31	4.54	3.09	0	0	-
34	0.38	0.17	1.49	0	0	-
35	0	0	0	0	0	-
36	0	0	0	0	0	-
37	0	Trace	0	0	0	-
38	1.44	1.27	1.52	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
39	0.86	0.66	0.78	0	0	-
40	0	0.12	0	0	0	-
41	0	0	0	0	0	-
42	0	0	0	0	0	-
43	0	0	0	0	0	-
44	1.77	0	0	0	0	-
45	0	Trace	1.44	0	0	-
46	0	1.21	0	0	0	-
47	0	0	0	0	0	-
48	0	0	0	0	0	-
49	0	0	0	0	0	-
50	0	0	0	0	0	-
51	0	1.21	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
52	0	0	0	0	0	-
53	0	0.25	0.30	0	0	-
54	0	0	0	0	0	-
55	0	0	0	0	0	-
56	0	0	0	0	0	-
57	0	0	0	0	0	-
58	0	0	0	0	0	-
59	0	0	0	0	0	-
60	0	0	0	0	0	-
61	0	0	0	0	0	-
62	0.66	1.47	1.75	0	0	-
63	0.93	0	0	0	0	-
64	0.33	Trace	0	0	0	-
65	0	0.38	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
66	0.20	0.20	0.66	0	0	-
67	0.66	0.45	0.66	0	0	-
68	0	0	0	0	0	-
69	0	0	0	0	0	-
70	0.33	0.22	0.02	0	0	-
71	0	0	0.20	0	0	-
72	0	0	0	0	0	-
73	0	0	0	0	0	-
74	0.02	0.02	0.07	0	0	-
75	0	0	0	0	0	-
76	2.56	1.90	1.95	0	0	-
77	0	0	0	0	0	-
78	0	0	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
79	0	0	0	0	0	-
80	0.10	0.07	0	0	0	0.15
81	0	0	0	0	0	-
82	0	0	0	0	0	0.46
83	0	0	0	0	0	-
84	3.07	0	0	0	0	-
85	0	2.97	3.27	0	0	0.55
86	0	0.02	0	0	0	0.43
87	0	0	0	0	0	0.33
88	0	0	0	0	0	0.30
89	0.02	0.50	0	0	0	-
90	0.60	0.50	0	1.44	0	-
91	1.01	1.52	2.33	0.76	0	-

Weather Station Data
Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
92	1.09	1.19	0.83	0	0	-
93	0	0	0	0	0	0.30
94	1.77	1.85	1.72	1.87	0	-
95	0	Trace	0	0	0	0.27
96	0	0	0	0	0	0.38
97	0	0	0	1.90	0	0.30
98	2.26	2.36	2.31	0.35	0	-
99	0	Trace	0	0.50	0	0.33
100	0.91	0.81	0.93	0	0	0.35
101	0	Trace	0	0	0	0.35
102	0.22	0.15	0.33	0.27	0	0.07
103	0	Trace	0	0	0	0.25
104	0	0	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
105	0	0	0	0	0	-
106	0	0	0	0	0	1.27
107	0	0	0	0	0	0.30
108	0	0	0	0	0	0.40
109	0	0	0	0	0	0.40
110	0	0	0	0	0	0.53
111	0	0	0	0	0	0.43
112	0	0	0	0	0	-
113	0	0	0	0	0	1.04
114	0	Trace	0	0	0	0.53
115	0.63	1.45	2.89	2.33	0	0.15
116	2.38	2.59	1.34	0.66	0	0.12

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water				Evaporation
	South Central	Central	South West	South East	
117	2.23	2.23	0.78	1.49	0.12
118	0	0.02	0	0	0.22
119	0	0	0	0	-
120	0	0	0	0	0.73
121	0	0	8.40	0	-
122	0	0	0	0	0.68
123	0.50	0.50	0.50	0.53	0.40
124	0	0.02	0	0	0.33
125	0	0	0	0	-
126	0	0	0	0	-
127	0	0	0	0	0.33
128	0.66	0	0.78	0.71	-

Weather Station Data

Rainfall and Evaporation

Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
129	0	0.78	0	0	0	0.53
130	0	0	0	0	0	0.55
131	0.91	0.10	0	0	0	0.66
132	0	0	0	0.05	0	-
133	0	0	0	0	0	-
134	0	0	0	0	0	1.34
135	0.40	0.40	0.38	0.48	0	0.35
136	0	0	0	0	0	0.48
137	0.30	0	0.38	0.38	0	0.45
138	0	0.25	0	0	0	0.27
139	0.66	0	0	0.66	0	-
140	0	0.66	0.86	0	0	-
141	0	0	0	0	0	0.88

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
142	0	0	0	0.93	0	0.48
143	0.83	0.91	0	0	0	0.22
144	2.23	0.81	3.80	2.59	0	0.15
145	0.73	2.23	0	0.10	0	-
146	0	0	0	0.05	0	-
147	0.55	0.60	0	1.39	0	-
148	0.91	1.04	1.52	0.15	0	-
149	0.05	Trace	0	0	0	0.40
150	0	0.02	0	0	0	0.35
151	0	0	0	0	0	0.43
152	0	0	0	0	0	0.50
153	0	0.10	0	0	0	-
154	0.02	0.10	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
155	0.12	0.12	0.27	0.07	0	1.80
156	0	0.50	0	0	0	0.78
157	0	0.07	0	0	0	0.63
158	0.45	Trace	0	0	0	0.43
159	0	0.63	0	0	0	0.50
160	1.87	0	0	1.75	0	-
161	0	1.47	0.81	0	0	-
162	0	0	0	0	0	1.93
163	0	0	0	0	0	0.71
164	0	0.05	0	0	0	0.66
165	0	0	0	0	0	0.71
166	0	0.12	0	1.11	0	-
167	0.76	0.12	0	0	0	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
168	0	1.21	0.40	0.35	0	-
169	0.58	0.05	0	0.33	0	-
170	0.02	0	0	0	0	1.75
171	0	0	0	0	0	0.20
172	5.48	4.69	4.52	4.01	0	0.45
173	0.17	0.25	0	0.68	0	0.53
174	0	0	0	0	0	-
175	0	0	0	0	0	-
176	0	Trace	0	0	0	1.24
177	0	0	0	0	0	0.43
178	0	0.02	0.12	0	0	0.45
179	2.28	Trace	1.09	1.54	0	-
180	0	2.05	0	0	0	0.76
181	0	0	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
182	0	0	0	0	0	-
183	2.56	0	0.69	0	0	1.37
184	0	0	0	3.20	0	0.48
185	0	2.48	0	0	0	-
186	0	0	0	0	0	1.24
187	0	0	0	0	0	0.63
188	0	0	0	0	0	-
189	0	0	0	0	0	-
190	0	0	0	0	0	1.62
191	0.27	0	0.33	0.36	0	0.58
192	0.40	0.38	0	0	0	0.50
193	0	Trace	0	0	0	0.83

Weather Station Data

Rainfall and Evaporation

(continued)

Centimeters of Water

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
194	0	0	0	0	0	0.07
195	0	0	0	0.40	0	-
196	0	0	0	0	0	-
197	0	0	0	0	0	0.78
198	0	0	0	0	0	0.63
199	0	0	0	0	0	-
200	0	0	0	0	0	1.27
201	0.05	2.00	2.29	0.22	0	-
202	0	0	0	1.65	0	-
203	1.95	0	0	0.12	0	-
204	0	0	0	0	0	-
205	0	0	0	0	0	2.26

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
206	0	0	0	0	0	-
207	0	0	0	0	0	0.99
208	0	0	0	0	0	-
209	0	0	0	0	0	-
210	0	0	0	0	0	-
211	0	0	0	0.12	0	2.31
212	0	0	0	0	0	0.25
213	0.76	1.04	0	3.93	0	0.43
214	3.27	4.03	2.84	1.47	0	-
215	0.30	0.17	0	0	0	0.25
216	0	0	0	0	0	-
217	0	0	0	0	0	1.29
218	0	0	0	0	0	0.43
219	0	0	0	0	0	0.60

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
220	0	0	0	0	0	0.50
221	0	0	0	0	0	0.53
222	0	0	0	0	0	0.66
223	0	0	0	0	0	0.25
224	0	0	0	0	0	-
225	0	0.91	0.22	0.20	0	0.68
226	0	0	0	0.43	0	0.33
227	0	0	0	0	0	-
228	0	0	0	0	0	-
229	0	0	0	0	0	-
230	2.00	1.49	1.80	2.31	0.38	-
231	0	0	0	0	0.07	-
232	0	0	0	0	0	1.19

Weather Station Data

Rainfall and Evaporation

Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
233	0.45	0.35	0	0.96	0.50	0.20
234	0	0.48	0.99	0	0	0.35
235	0	Trace	0	0	0	0.48
236	0	0	0	0	0	0.38
237	0	0	0	0	0	0.43
238	0	0	0	0	0	0.76
239	0	0	0	0	0	-
240	0	0	0	0	0	0.50
241	0	0	0	0	0	0.61
242	0	0	0	0	0.02	0.61
243	0	0	0	0	0	0.55
244	0	0.07	0	0	0	-
245	0	Trace	0	0	Trace	-
246	0	Trace	0	0	0	-

Weather Station Data

Rainfall and Evaporation

Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
247	0	0.07	0.07	0	0	1.93
248	0	0	0	0	0	0.45
249	1.65	Trace	0	1.14	0	0.50
250	0	1.57	1.67	0	0.68	0.68
251	0	0.07	0	0	0	-
252	0	0.05	0	0	0	-
253	0	0.05	0	0	0	1.49
254	0	0.10	0	0	0	0.53
255	0	0.10	0	0	0	0.50
256	0.12	0.05	0	0	0	0.43
257	0.35	3.63	3.65	2.48	3.86	0.30
258	0	0	0	0	0	-
259	0	Trace	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
260	0	Trace	0	0	0	0.91
261	0	0	0.05	0	Trace	0.35
262	0	0	0	0	0	0.43
263	0	0	0	0	0	0.35
264	0	0	0	0	0	0.25
265	0	0	0	0	0	-
266	0	0	0	0	0	-
267	0	0.07	0	0	0	0.99
268	0	0	0	0	0	0.30
269	0	0	0	0	0	0.17
270	0	0	0	0	0	0.30
271	0	Trace	0	0	0	0.22
272	0.30	0	0	0.17	Trace	-
273	0	0.25	0.30	0	0.12	-

Weather Station Data
Rainfall and Evaporation
Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
274	0	0.02	0	0	0	0.76
275	3.37	2.94	4.24	3.81	2.79	0.38
276	0	0.02	0.05	0	0.02	0.20
277	0	0	0.02	0	0	0.20
278	0	0	0	0	0	0.48
279	0	0	0	0	0	-
280	0	0	0	0	0	-
281	0	0.02	0	0	0	-
282	0	0	0	0	0	-
283	0	0.05	0	0	0	1.16
284	0	0	0	0	0	0.02
285	0	0	0	0	0	0.45
286	0	0	0	0	0	-
287	3.20	0	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Centimeters of Water

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
288	0.27	0	0	0	0	1.06
289	0	0.22	0.17	0	0.20	0.43
290	0	0	0	0	0	0.33
291	0	0	0	0	0	-
292	0	Trace	0	0	0	0.43
293	0	0.07	0	0	0	0.27
294	0	0.10	0	0	0	-
295	0	0.02	0	0	0	-
296	0	0.02	0	0	0	0.81
297	0	Trace	0	0	0	0.20
298	0	Trace	0	0	0	0.20
299	0	0.02	0	0	0	0.25
300	0	0.07	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
301	0	0.50	0	0	0	-
302	2.74	3.40	2.81	3.70	3.14	0.50
303	0.17	0.17	0.17	0	0.12	0.15
304	0	0	0	2.79	0	0.10
305	0.30	0.30	0.33	0.25	0.38	0.43
306	0	0	0	0	0	0.20
307	0	0.05	0	0	0	-
308	0	0	0	0	0	-
309	0.93	1.04	0.91	0.91	1.04	0.78
310	0	0.02	0	0	0	-
311	0	0	0	0	0	-
312	0	0.05	0	1.42	0	-
313	1.34	1.37	1.44	0	1.29	-
314	0	0	0	0	0	-
315	0	0.02	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Centimeters of Water

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
316	0	0	0	0	0	-
317	0	0.02	0	0	0	-
318	0	0.02	0	0	0	-
319	0	0.05	0	1.77	0.20	-
320	0.15	0.15	0.12	0	1.49	-
321	0	0	0	0	0	-
322	0	0.07	0	0	0	-
323	0	0.07	0.07	0	Trace	-
324	0	0.10	0	0	0	-
325	0.10	0	0	0	0	-
326	0	0.05	0	0	0	-
327	0	0.07	0	0	0	-
328	0	0	0	0	0.12	-

Weather Station Data

Rainfall and Evaporation

Centimeters of Water

(continued)

Day of 1973	South Central	Central	South West	South East	North West	Evaporation
329	0	0	0	0	0	-
330	0	0.05	0	0.43	0	-
331	0.22	0.20	0.30	0	0.12	-
332	0.12	0.15	0.10	0.38	0.63	-
333	0	0.50	0	0	Trace	-
334	0	0.02	0	0	0	-
335	0	0.05	0	0	0	-
336	0	0.05	0	0	0	-
337	0	0.02	0	0	0	-
338	0	0.05	0	0	0	-
339	2.99	1.14	2.99	2.41	1.42	-
340	0	1.49	0	0	1.85	-
341	0	Trace	0	0	0	-

Weather Station Data

Rainfall and Evaporation

(continued)

Day of 1973	Centimeters of Water					Evaporation
	South Central	Central	South West	South East	North West	
342	0	0	0	0	0	-
343	5.02	4.49	4.21	0	3.83	-
344	0	0	0	0	0	-
345	0	0.02	0	0	0.12	-
346	0	0	0	0	0	-
347	0	0.55	1.34	5.08	0.53	-
348	0	0.83	0	0	0	0.78
349	0	0	0	0	0	-
350	0	0.71	0	2.66	0.86	-
351	0	2.05	0	0	1.49	-
352	0	0.15	0	0	0	-
353	0.35	0.10	0.83	0	0	-
354	0.60	0.12	0	0	0.25	-

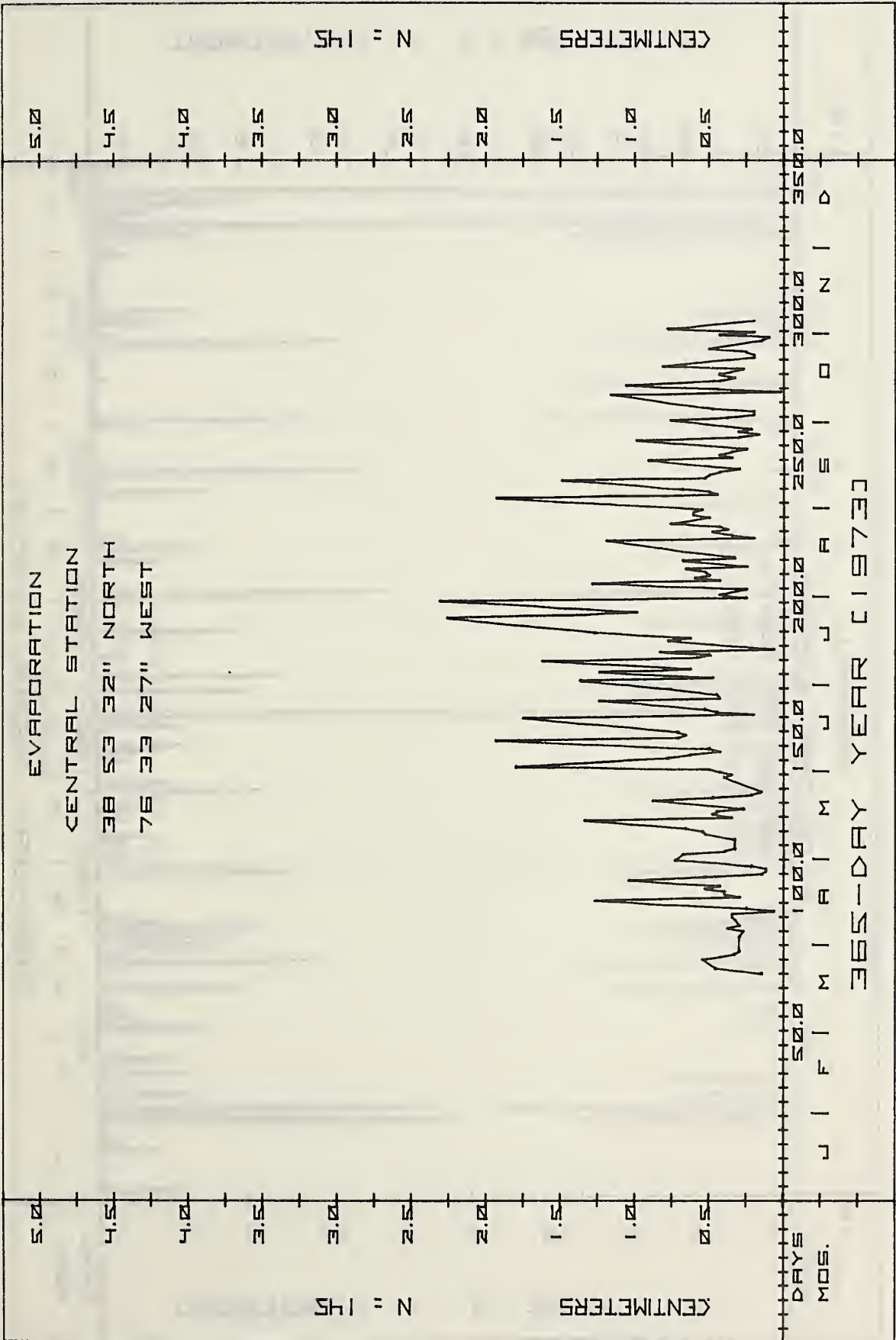
Weather Station Data

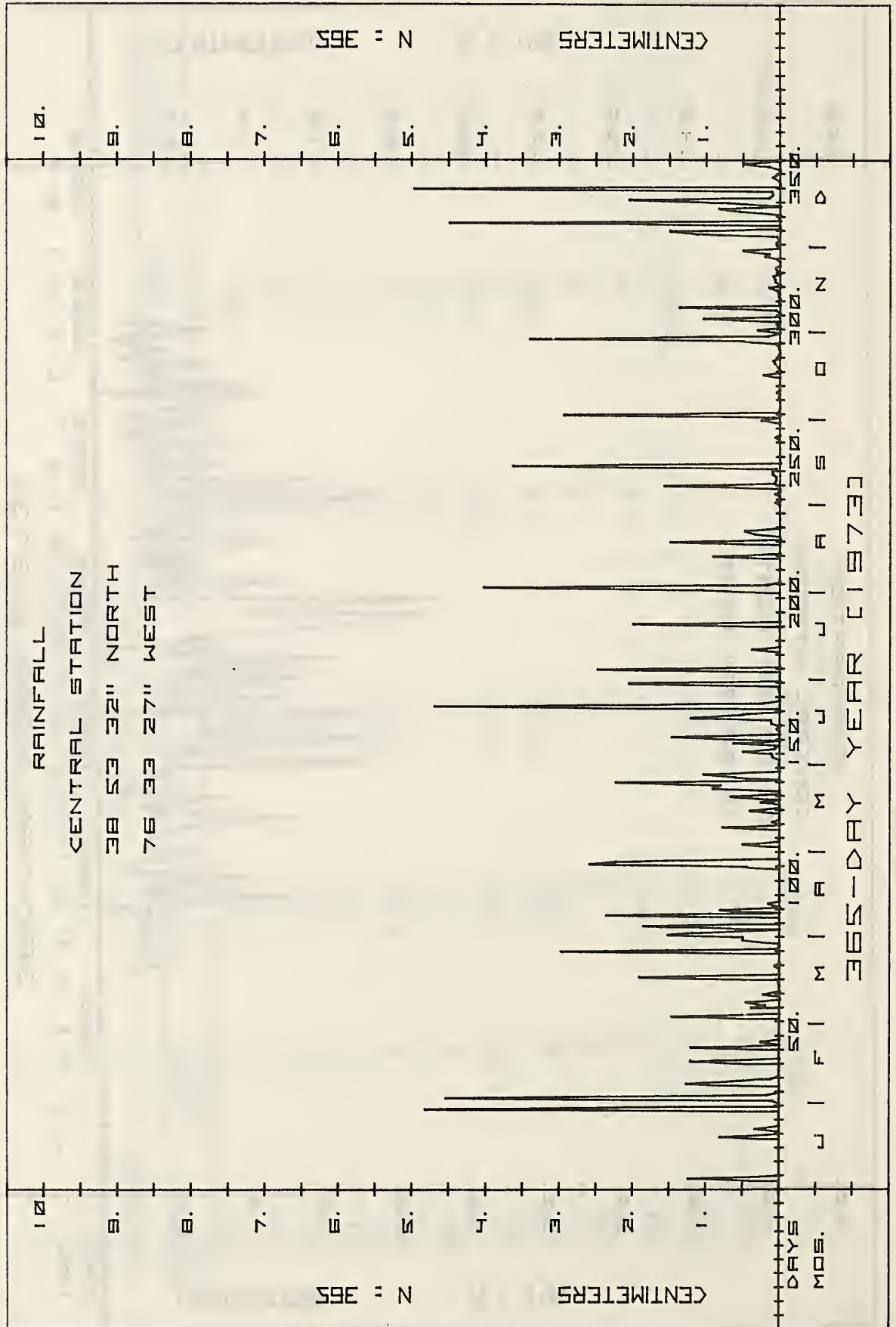
Rainfall and Evaporation

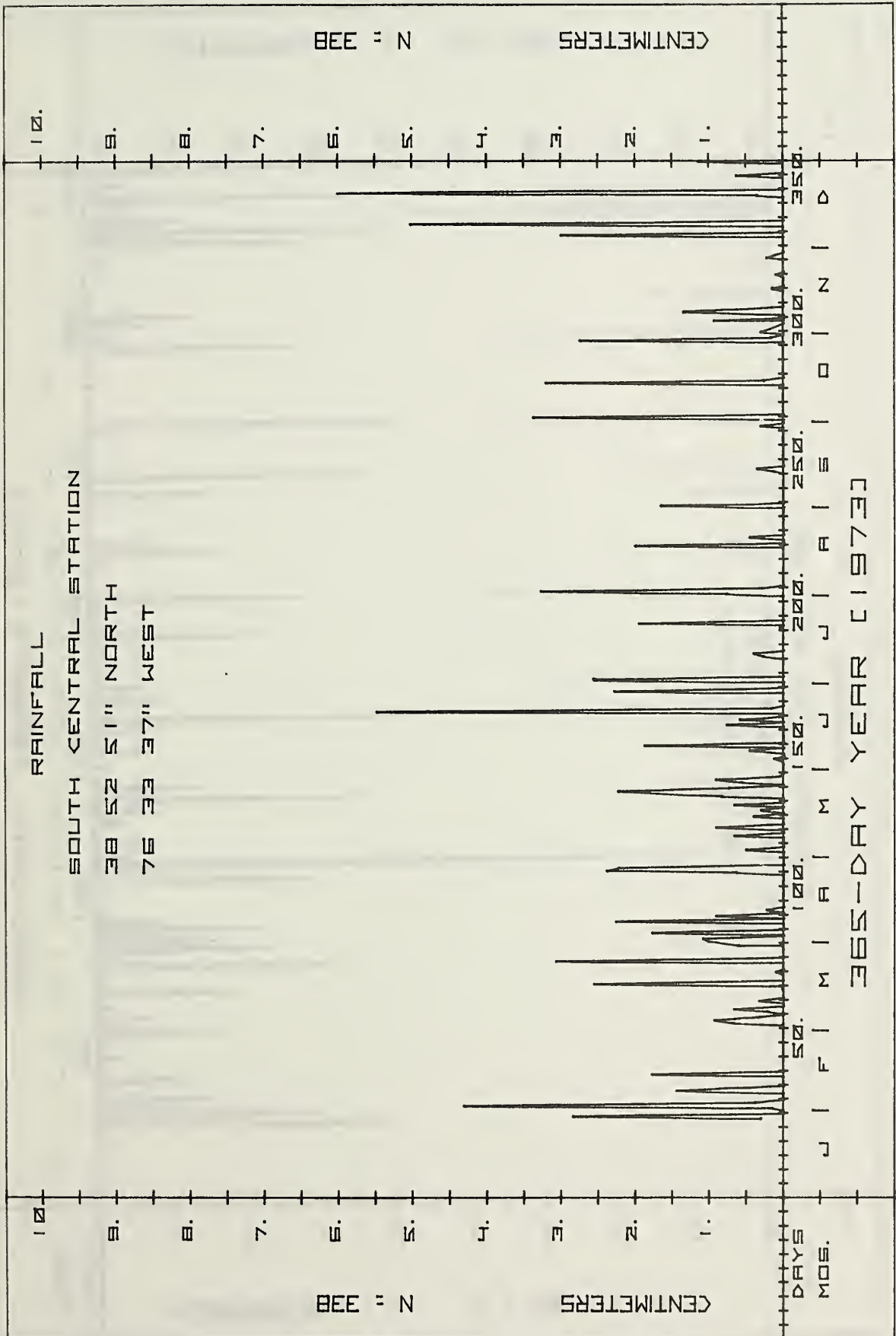
Centimeters of Water

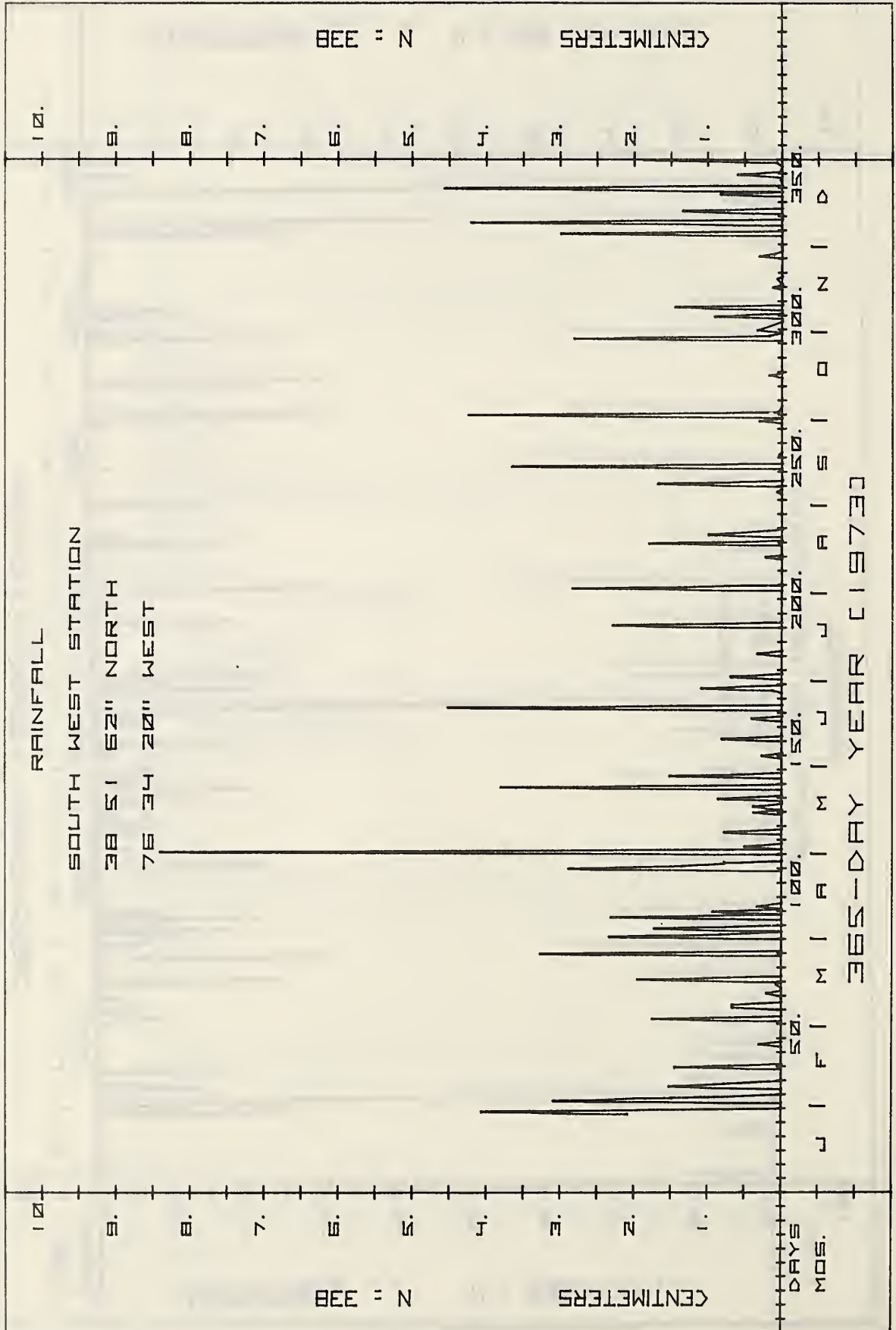
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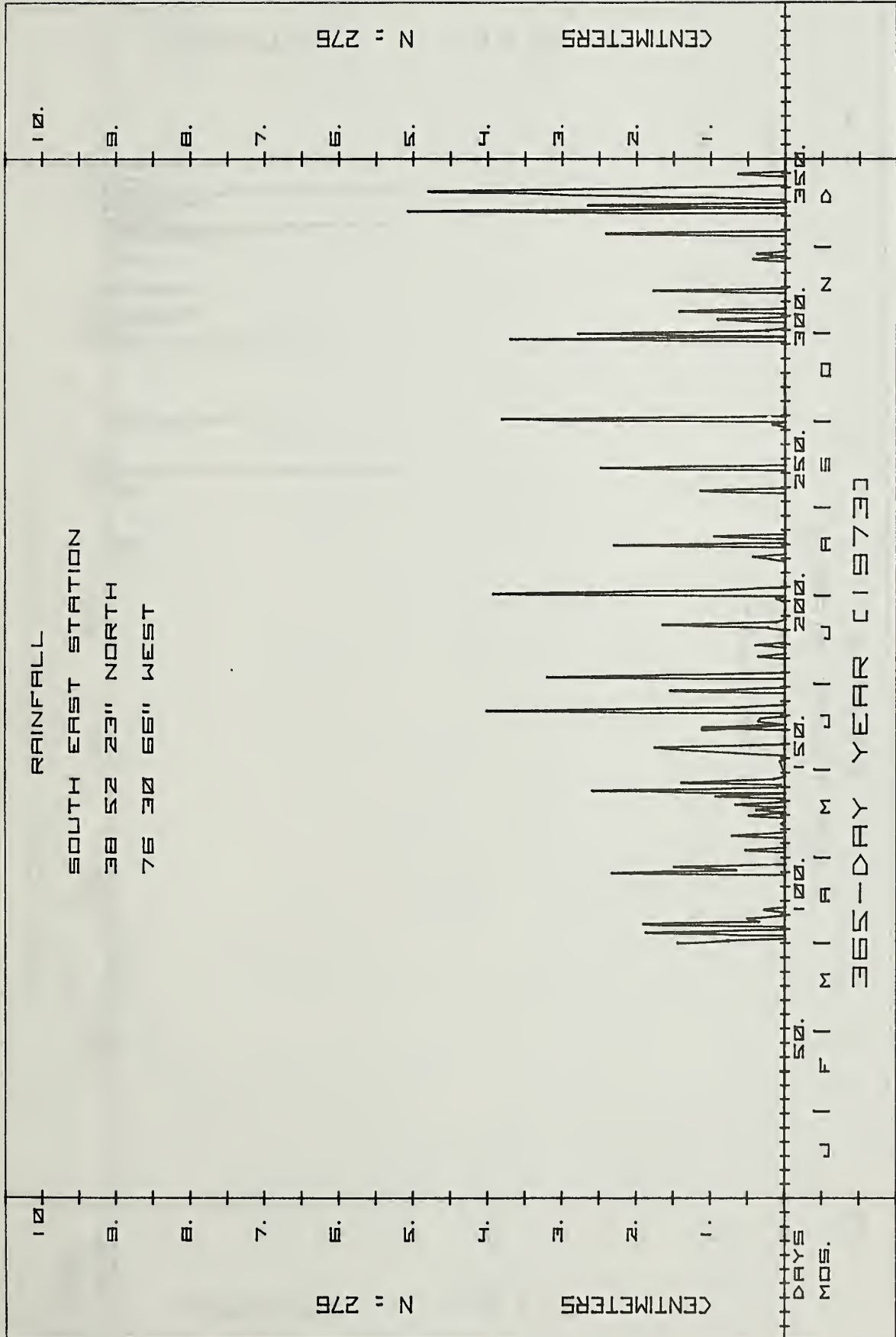
Day of 1973	South Central	Central	South West	South East	North West	Evaporation
355	0	4.97	4.57	4.80	4.34	-
356	0	0	0	0	0	-
357	0	0	0	0	0	-
358	0	0.02	0.02	0	0	-
359	0	0	0	0	0	-
360	0.63	0.10	0.60	0.63	0.60	-
361	0	0.05	0.02	0	0.02	-
362	0	0	0	0	0	-
363	0	Trace	0	0	0	-
364	0	0.15	0.07	0	Trace	-
365	1.14	0.50	1.87	0	1.39	-
	N=338	N=365	N=338	N=276	N=135	N=145

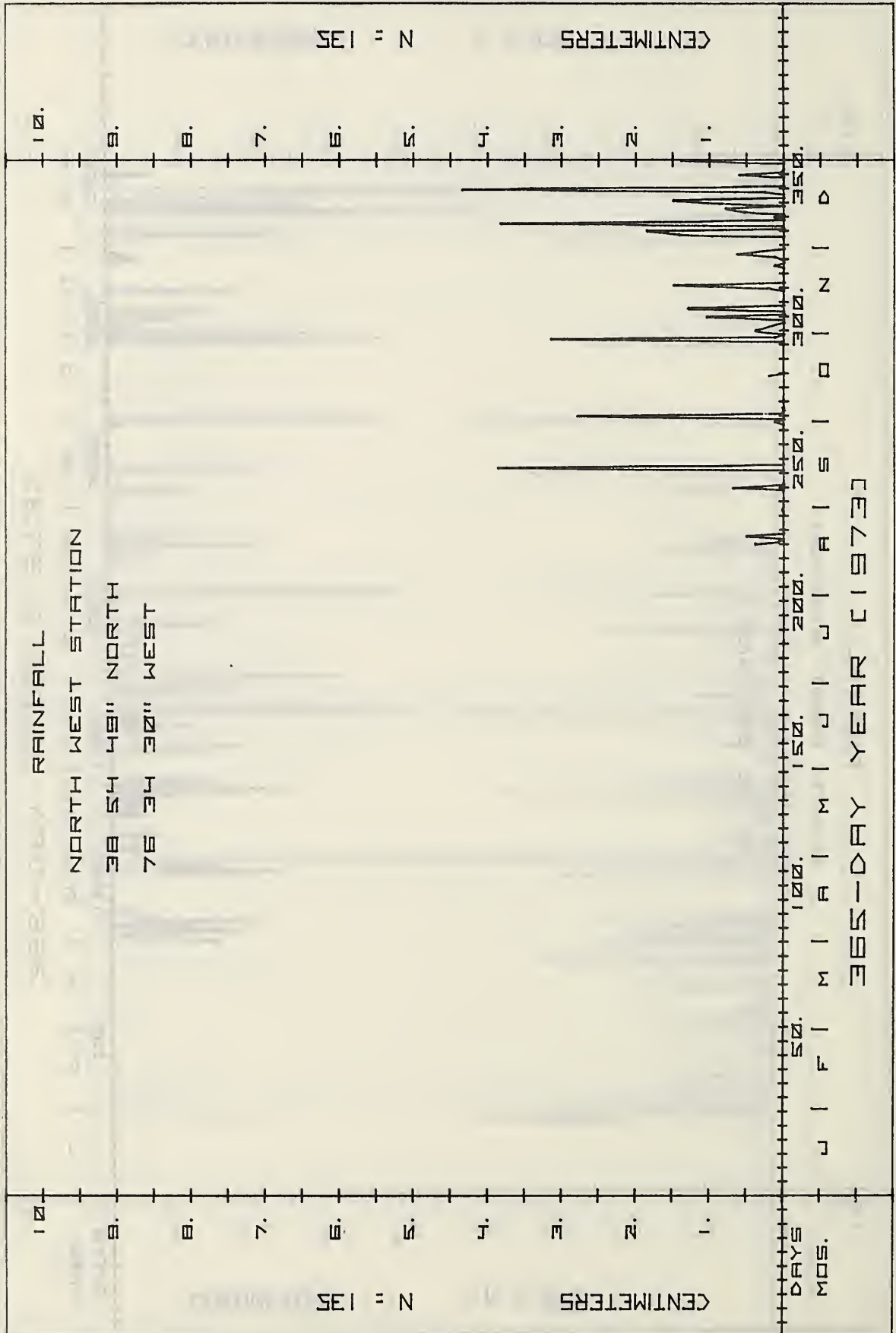




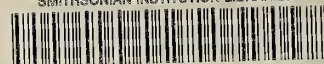








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